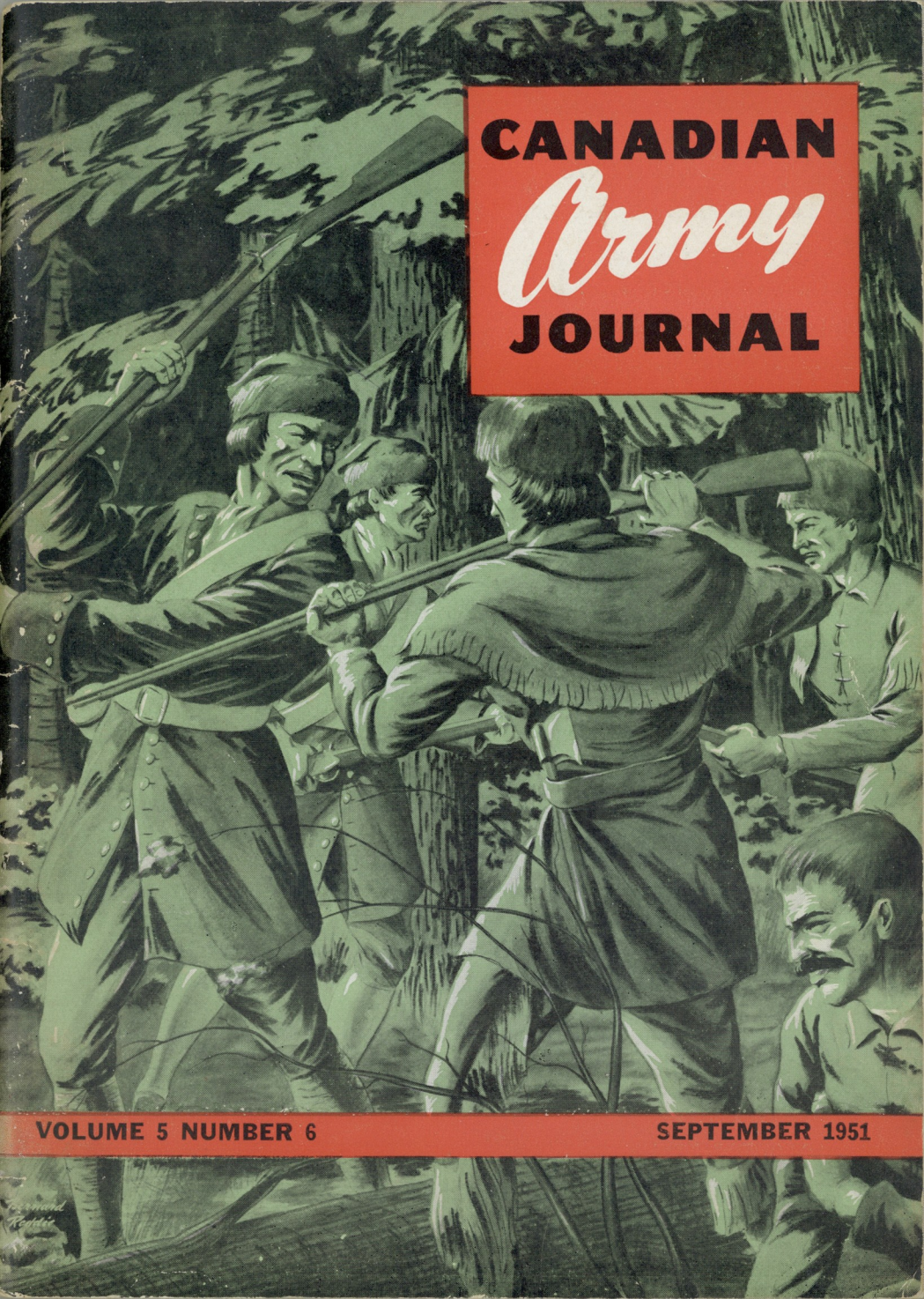

CANADIAN Army JOURNAL

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CANADIAN Army JOURNAL

CONTENTS

The Cover

Canadian militiamen harass British troops at Quebec, 1690. (See article on page 1).

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.

OCTOBER, 1690

SIR WILLIAM PHIPS' ATTACK ON QUEBEC

WRITTEN ESPECIALLY FOR THE CANADIAN ARMY JOURNAL
BY THE HISTORICAL SECTION, ARMY HEADQUARTERS, OTTAWA

Some months ago the Canadian Army Journal published a series of three articles dealing with episodes from Canadian military history which were treated mainly in terms of the accepted Principles of War. The series was later published as a pamphlet under the title "Introduction to the Study of Military History for Canadian Students." This is the first article of a similar series of three, which will ultimately be incorporated in an enlarged edition of the pamphlet.

* * *

The campaign that took place around the infant city of Quebec in the autumn of 1690 is a small episode in Canadian history but not without significance. It was one of the earliest occasions when the military forces of Canada were in action on a considerable scale. Although a fairly large force of French regulars was present, the actual fighting was almost all done by Canadian militiamen under their own officers. And there are definite military lessons to be learned even from these minor actions which took place over two and a half centuries ago.

The Background of the Attack

The year 1689 saw the beginning of the series of conflicts between Britain and France which is sometimes called the Second Hundred Years' War. In that year the War of the League of Augsburg (called by Americans King William's War) broke out in Europe. Inevitably it was fought on the western as well as the eastern side of the Atlantic, and French and English colonists were soon at each other's throats in a struggle which was embittered by the religious hatreds existing between Puritan New England and Roman Catholic New France.

It was fortunate for the French colony that this same year 1689 saw the return as Governor of the old but formidable veteran Count Frontenac,* perhaps the stoutest defender it ever had. During the winter of 1689–90 Frontenac sent out three

*He was now 69. He had served a previous term as Governor, 1672–82.

war parties over the snow against the frontiers of the English colonies. The blows struck by these expeditions goaded New England and New York into making a great effort to clear the French from America. In 1690 they produced a grand design for an attack upon New France and in particular upon the centre of French power, the town of Quebec.

The English colonies were far stronger than New France in population and in wealth. Luckily for the French, however, the English were disunited and full of mutual jealousy. In these circumstances, the courage, sound leadership and effective organization of the French community enabled it to resist its aggressive and numerous neighbours not only in 1690, but for two generations afterwards. Its autocratic system of government, while certainly adverse to the progress of the colony in the long run, was favourable to military efficiency. When at last New France fell it was not the American colonies that conquered it, but a great armament dispatched from England, backed and transported by the Royal Navy.

The English colonies' plan for the campaign of 1690 was conceived on lines similar to those followed with success seventy years later; but the military resources of the colonies at this time were unequal to carrying out such a great conception. The intention was to make a double attack. A land expedition was to move up the line of the Hudson River and Lake Champlain against Montreal; while, simultaneously, a seaborne force was to sail up the St. Lawrence and attack Quebec. The command of this latter enterprise was given to Sir William Phips, a "rude sailor" who owed his reputation and his knighthood to his success in salvaging the cargo of a wrecked Spanish treasure galleon, and had little military experience. Phips' attempt to carry out the scheme produced one of the most dramatic episodes in the early history of Canada.

Frontenac Prepares for Defence

Count Frontenac, anticipating the attack, had taken steps to strengthen Quebec. At this time the place was far from being the fortress which it later became. There was a small fort in the Upper Town and a few guns mounted; and the cliffs gave the town good natural protection on two of its three sides, fronting the St. Lawrence and St. Charles rivers. But the side looking south and west towards the open country was completely unprotected, and Frontenac now fortified it for the first time. The defences which he provided here consisted of "palisades and small stone redoubts at intervals;" they were obviously not much more than fieldworks. They did not enclose any part of the great hump of Cape Diamond, the site of

the modern Citadel, on which there were no buildings at this time. Frontenac says in his report that he felt "un pressentiment" that it was very important to get on with this work, and it was nearly finished when on 31 July 1690 the Governor left Quebec for Montreal, evidently to take measures to resist the expected overland attack. As it turned out, the English expedition against Montreal came to practically nothing. Internal quarrels among the colonists themselves and inadequate preparations combined with a timely onslaught of smallpox to defeat it. The main body never got beyond Lake George, and the only blow struck was a hit-and-run raid by a small party on La Prairie, across the St. Lawrence from Montreal, on 4 September.

Phips' expedition by sea was a more formidable threat. However, it was launched far too late in the season. Phips had devoted the spring to a successful expedition against Port Royal in Acadia; and the Quebec enterprise was held up in the hope of getting help, in the form of arms and ammunition, from the home government in England. But that government was fighting a war in Ireland, and sent no assistance. Only on 9 August did Phips' fleet finally set sail from Hull, near Boston. It consisted of from 30 to 34 ships (different accounts vary slightly) with more than 2000 men on board. The troops were Massachusetts militia; the ships were not war vessels, and only four of them were of any size. Unlike the later colonial expedition which took Louisbourg in 1745, this one got no assistance from the Royal Navy; and no British regular troops were involved. At this period, although France maintained an effective regular force in Canada, the only English troops in America were a few inefficient independent garrison companies. Both French and English colonies had militia systems based on the obligation of universal service.

Phips made a very slow voyage. He was hampered, in his own words, "by bad weather and contrary winds," and had no pilot to show him the way up the St. Lawrence. He arrived at Tadoussac on 3 October. (The English called this date 23 September, for they were still using the Old Style calendar.) The squadron did not reach the Isle of Orleans until 15 October, and it anchored close below Quebec only on the 16th. This dilatory approach had robbed Phips of his best hope of an easy victory, for when he entered the river Frontenac was still in Montreal. On 10 October a report that a hostile fleet had sailed from Boston led him to set out for Quebec. The next day he heard that the enemy ships had actually been sighted in the St. Lawrence. Frontenac paused just long enough to send

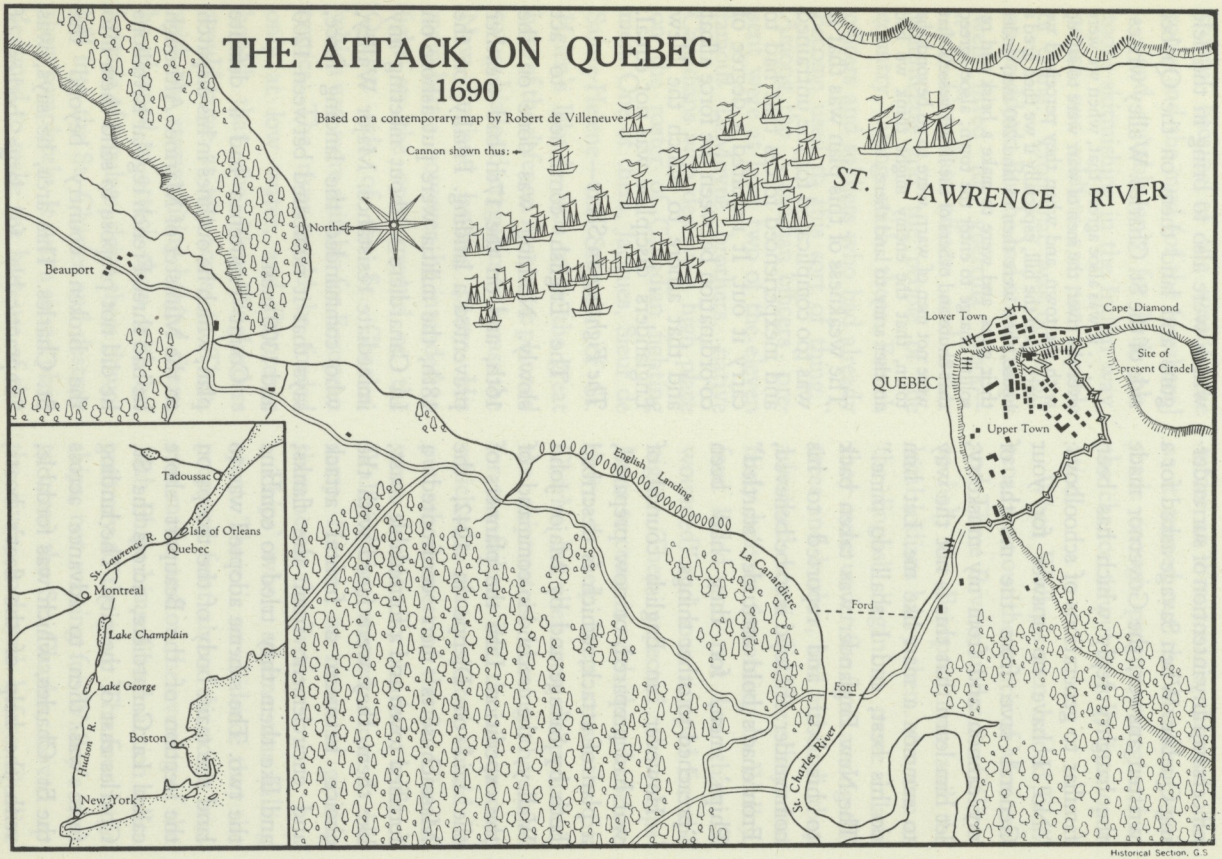
orders to Callières, the Governor of Montreal, to follow him to Quebec with all his troops except a small garrison, and to collect as many as possible of the militia on the way; then he pushed on by canoe, through a violent storm, to the capital. He reached it on the morning of 14 October, when Phips was still seven leagues away.

Frontenac's arrival raised the spirits of garrison and people, and he himself tells how "la résolution et la gayeté" shone in the faces of the inhabitants as they made their preparations. The Governor was delighted to find that during the past few days the Town Major of Quebec, Prévost, had greatly improved the batteries and other defences. A map prepared, probably the following year, by the engineer Robert de Villeneuve indicates that, all told, there were 23 cannon mounted by the time Phips appeared. Six of these were in two batteries in the Lower Town, and three were emplaced to cover the crossing of the St. Charles River. Quebec was still not especially strong, but it was stronger now than ever before; and with nearly 3,000 fighters to defend it, as it had after Callières came marching down St. Louis Street with his merry men from the upper country on the evening of 17 October, it proved more than equal to beating off the amateur warriors of New England.

Phips Before Quebec

On the morning of the 16th took place the famous episode of the flag of truce. Phips sent to Frontenac a letter (carefully composed by the expedition's four chaplains) demanding the surrender of Quebec. The messenger was one Major Thomas Savage.* The New England accounts call him "young Thomas Savage," evidently to distinguish him from his father, another Major Thomas Savage, for he was a man of 50. The reception he got is a part of Canadian legend, but unlike many legends it is fully supported by the evidence of the people who were there. The emissary, blindfolded, was led up to Fort St. Louis, where he found himself, as reported later in a letter written by James Lloyd, a Boston merchant, "in a stately Hall full of brave Martiall men." He proceeded to present the ultimatum, which demanded an answer within an hour. But the menaces concocted by the Puritan men of God did not have the effect Phips had hoped for. Frontenac told Savage proudly that he would not keep him waiting as long as an hour; he did not recognize the new King (William III) in whose name the English came; and neither he nor his

**The letter has been preserved and is published in Parkman. Although Savage wrote an account of the campaign, which has also been preserved, he makes no mention of his mission to Frontenac. His impressions of the incident would have been interesting!*


THE ATTACK ON QUEBEC
1690
Based on a contemporary map by Robert de Villeneuve
Cannon shown thus:
North
ST. LAWRENCE RIVER
Beauport
Lower Town
Cape Diamond
Site of present Citadel
QUEBEC
Upper Town
English Landing
La Canardière
Ford
Ford
St. Charles River
Tadoussac
St. Lawrence R.
Isle of Orleans
Quebec
Montreal
Lake Champlain
Lake George
Hudson R.
Boston
New York
Historical Section, G.S.

officers had any intention of surrendering Quebec. When Savage asked for a written answer, the Governor made the haughty reply which has been familiar to generations of schoolboys: "No! I have no answer for your General save from the mouths of my cannon and from my musketry; let him learn that this is not the way to summon a man like me. Let him do his best, and I shall do mine." The New Englander was taken back to his boat and reported to his commander. If Lloyd is to be believed, Frontenac's bold attitude "startled" Phips' men, for they had been "preached to other things."

However, an English council of war had prepared, or now prepared, a plan of attack, which is described both by Savage and by Major John Walley, the second-in-command of the expedition. Like the planners of the raid on Dieppe in 1942, the Massachusetts men confronted a fortified town and a formidable coast; like them, they were faced with the choice between a frontal attack and encirclement from the flanks; and like them they tried to combine the two. The scheme adopted was to land the main body of the troops on the section of the Beauport shore called La Canardière, across the St. Charles east of the city. The landing force was then to advance across the St. Charles, which was fordable, with the help of the fleet's boats, which were also to bring in the field guns and land them on the Quebec side of the St. Charles. Walley writes:

> . . . it was alsoe agreed that, when we were over the river, the men of warr were to sail up with the town, and when they perceived we were upon the hill, especially if we then fired a house, they were then to land 200 men under their guns, and were to make a brisk and resolute charge to enter the town; alsoe agreed that Shute and others of the larger vessels that were not men of warr, were to go beyond the town, that the enemy might think we had another army to land there . . .

The weakness of this plan was that it was too complicated for the untrained and inexperienced forces that had to carry it out. It required a degree of co-ordination between the force afloat and that ashore to which the New Englanders' discipline was not equal.

The Fighting on Shore

The English continued to act slowly. Nothing was done on the 16th, and on the 17th bad weather prevented a landing. Finally, on the 18th, the militia were put ashore on La Canardière without meeting any immediate resistance. Major Walley, who commanded the landing force, says that it numbered between 1200 and 1300 men.

Count Frontenac had a definite plan, which he outlines in his dispatch to the Minister of Marine. Although he had three French regular battalions he did not propose to send them into the broken country beyond the St. Charles. This area, he says, was "impracticable for large bodies of

troops, because of the woods, the rocks and the mud [of the foreshore] . . . and suitable only for little platoons skirmishing in the Indian way, which our soldiers are not capable of doing." Frontenac was obviously no Braddock. But he had other troops well fitted for guerrilla work—"our Canadian officers and other volunteers, and the people of the country, along with those French officers and soldiers who had already become used to this sort of thing." Among the "Canadian officers" present were at least two of the eleven famous LeMoyne brothers, native Canadians who deserve a high place on the roster of Canadian fighting men. One of them, Jacques, Sieur de Sainte-Helene—the Seigneur of St. Helen's Island—was to be the great hero of the defence. Frontenac planned to use his local irregulars to harass the New England landing party. His main battle, however, he intended to fight on the open ground on the Quebec side of the St. Charles, which was more suitable for European tactics. The river could be forded only at low water, and Frontenac hoped that the New Englanders would come at him across it. Then, with the stream rising behind them, he planned to attack them with his brigade of regulars, drive them downhill into the St. Charles and destroy them completely. It was a sound plan, designed to make the best use of the forces at Frontenac's disposal; but as it turned out the invaders never made enough progress to give him the chance to put it fully into operation.

When Walley's men landed Frontenac sent out the militia of Montreal and Three Rivers, under Ste-Hélène, to help the Beauport men and the local Indians harry them. As soon as the English began to move inland they came under fire from among the trees and bushes, and although they advanced some distance they lost fairly heavily (according to Walley, four killed and not less than 60 wounded) and soon camped for the night. They expected the ships' boats to come in with the tide before dawn to help them cross the St. Charles, but they were disappointed, the shipmasters blaming the wind for the failure. But the six cannon, which the plan required should be put ashore west of the St. Charles, were prematurely landed, without Walley being warned, close to his camp. He had no means of getting them across the river.

Phips' whole scheme was falling apart. There is no evidence that the proposed feint above the town was ever made; and on the evening of the 18th Phips himself took action quite contrary to the plan. The four large ships, not waiting for Walley's men to cross the St. Charles, moved up the river, anchored before Quebec

and opened fire. The batteries replied, and firing went on until after dark. Early the next morning the cannonade was resumed. The ships went in close ("within musquett shott," says Phips) and the six big guns in the Lower Town bore the brunt of the action. Ste-Hélène had come back to the city and was laying the guns in one of the batteries. The English were forced to break off the action on the 19th after several hours' firing, when their ships, and particularly Phips' flagship, the *Six Friends*, had been seriously damaged. They had shot away most of their scanty supply of ammunition without doing much harm to the solid stone buildings of Quebec or inflicting any casualties worth mentioning.

In the meantime, the New England landing force had remained inactive and made no attempt to exploit such diversion as the bombardment provided. The men suffered greatly from cold (winter was coming on early) and lack of essential supplies (the shortage of rum seems to have been the main complaint); and there was smallpox in the camp. The fleet's boats still did not come; and on the night of the 19th a council of war decided to recommend that the force re-embark on the night of the 20th, with a view to making another attack elsewhere after the troops were refreshed. On the morning of the 20th Walley went aboard the flagship and Phips reluctantly agreed to the suggestion.

On this day there was another skirmish. According to Monseignat, the author of one of the best French accounts, in the afternoon the English vanguard was seen marching along the bank of the St. Charles as though intending to cross. Frontenac now moved his regular battalions out to his chosen ground, formed them in order of battle and placed himself at their head. But the battle for which he had set the stage never took place. No Englishman crossed the St. Charles. The incredibly active Ste-Hélène was now back on the Beauport side, leading and inspiring the Canadian skirmishers who were engaged with the head of the English column. This was his last fight, for in it he received a mortal wound from a musket ball. His brother Longueuil was wounded in the same affair, in which the French lost two other men killed.

The English boats came in shortly before dawn, but there was so little darkness left and his men were in such confusion that Walley thought it best to put off the evacuation until the next night. There was further minor fighting on the 21st, with Walley sending out parties of skirmishers to hold the French back. That night the boats appeared again, and the English force was evacuated without interference from the French,

whose outposts did not even discover what was going on. Perhaps they would have done better if Ste-Hélène had still been on his feet. The English, as the result of some misunderstanding, left five of their six guns behind them. Lloyd quaintly says that they hoped to recover them next day, "but by that time they spoake ffrench."

Frontenac had probably failed to fathom the enemy's intention to make an immediate evacuation. He had missed an opportunity for offensive action which might have wiped out the landing force. It seems likely that in any case he continued to feel that his European troops were unfitted to an offensive movement in broken country, and feared that any attempt to use them in this manner might produce a disaster. He preferred to sit tight.

The English attempted nothing more. A council of war on the 22nd did not finally decide to abandon the attack, although many of the officers argued that their men were unfit for action, sickness being rampant. But on the 23rd and 24th an exchange of prisoners was arranged and effected, and the New England fleet then dropped down the river on its way back to Boston. Some of the ships never reached home, and many men who had survived the fighting died on the voyage. The failure of the expedition was a painful blow to Massachusetts, who had spent a great deal of money on fitting it out and was now obliged for the first time in her history to resort to an issue of paper currency. While Boston mourned, Quebec rejoiced. But the English retreat had come none too soon, for New France was short of food, and with almost all the able-bodied men in the country assembled at Quebec there would soon have been no way of feeding them.

Comments

The French had reason to be proud of the manner in which they had met and repulsed the attack, but much of the explanation for the victory lies in the inefficiency of the New England force. The great Bostonian historian Parkman penned in 1877 what may be regarded as the best possible commentary: "Massachusetts had made her usual mistake. She had confidently believed that ignorance and inexperience could match the skill of a tried veteran, and that the rude courage of her fishermen and farmers could triumph without discipline or leadership . . . A trading republic, without trained officers, may win victories; but it wins them either by accident, or by an extravagant outlay in money and life."

Frontenac's defensive measures were well calculated. As we have said, the only serious allegation that can be made against him is that of over-caution. He repulsed the enemy,

but because he did not feel equal to taking the offensive he did not destroy him. It must be said in Frontenac's favour that with the season so far advanced (when Phips appeared it was over a month later than the date of the Battle of the Plains of Abraham in 1759) the Governor had only to hold his position for a limited time, and the approach of winter would then inevitably drive the invaders away. All the same, he had a larger force than Phips', and it was of better quality; and he had an opportunity, by running some risk, to strike a most telling blow at the English in America. We can admire his realistic recognition of the shortcomings of European-trained troops in American warfare; but did he not, perhaps, overdo it?

It may seem almost ludicrous to discuss this small episode, which sometimes verges on the comic, in terms of the Principles of War. Nevertheless, in this as in every action the operation of those principles can be observed.

The static defensive measures of Frontenac and Prévost made ample and most useful provision for *Security;* what was lacking in the French operations in the final phase was the *Offensive Action* which might so usefully have been launched from this firm base. The failure of the English to implement effectively their plan for a double attack enabled Frontenac to effect at Quebec a *Concentration of Force* which made their success there virtually impossible. This concentration was facilitated in turn by the *Flexibility* conferred upon the French by their possession of easy and rapid water communications, by way of the St. Lawrence, from one end of the colony to the other.

The English colonists, on the other hand, seem to have sinned against almost every sound principle of action that has ever been enunciated. Notably, the slowness of their proceedings at every point deprived them of all chance of achieving that *Surprise* which was their best hope of victory. Not entirely through the fault of the colonial planners, their *Administration* was inadequate; the expedition was launched without being provided with the supplies essential to success. The spirit of *Co-operation* was sadly lacking within the New England force, with the results that might have been expected. Finally, as the consequence of many circumstances, but mainly the absence of energetic, determined and informed leadership, it seems clear that the *Morale* of the expedition declined steadily from the moment when it arrived before the enemy. The New Englanders were fortunate not to suffer a worse disaster than the one that actually befell them.

(Continued on next page)

NIGHT FIRING

MAJOR S. F. SHORE IN THE UNITED STATES ARMY COMBAT FORCES JOURNAL

The infantryman starts to win battles when he begins his basic training. Everything he learns up to the moment of battle helps him win. We know from long experience that proper training means fewer casualties for our team and more for the opposing team during combat. The cost of war in dollars and cents is enormous but the combination that wins cannot be given a money value.

The weapons and equipment of modern war can be used with success only when the men who man them have been trained under all conditions and in both day and night operations. Yet we send infantrymen into combat and expect them to use rifles, carbines and BARs effectively in night combat without honestly training them to do so. We assume that volume of fire and close combat measures are the necessary elements in night assault.

I agree that this is so, but I further believe that a soldier should be trained to deliver unaimed fire with individual weapons on flash, sound and indistinct targets at night. If he is, our fire will become more deadly.

We must never forget that our potential enemy outnumbers us. We must not only be as good as he is in night operations, we must be much better. Battle reports indicate that our Korean enemies have used night operations on many occasions. Reasons for these night operations have been:

To escape air observation and air attack.

To infiltrate our positions.

To flank our positions.

To screen their movements.

To execute operations in which he has been trained.

To exploit our weakness in night operations.

As long as we have air superiority

SIR WILLIAM PHIPS' ATTACK ON QUEBEC

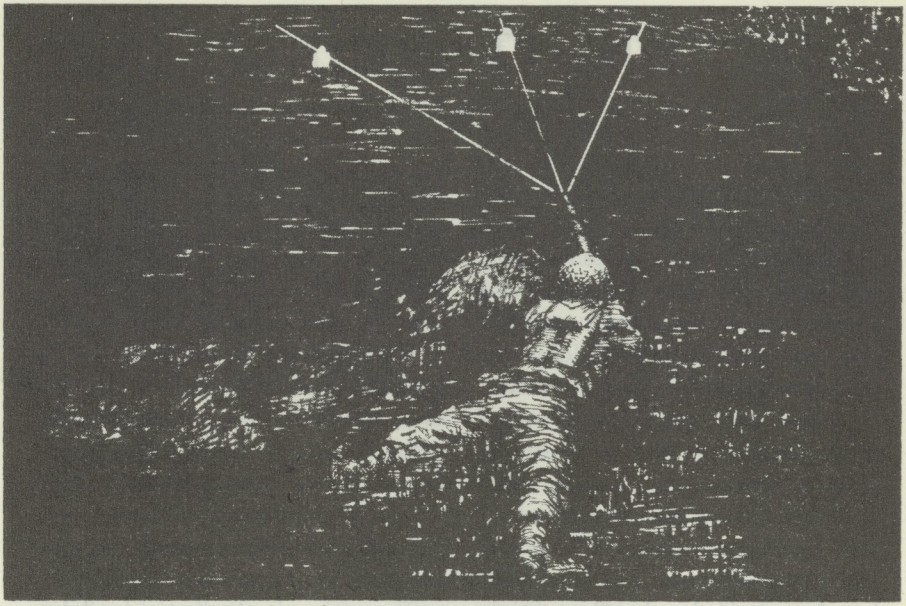
(Continued from preceding page)

BOOKS ON THE CAMPAIGN

Francis Parkman, Count Frontenac and New France under Louis XIV (*Boston, 1877 and later editions*). (*Still the best general account*).

Gerald S. Graham, Empire of the North Atlantic (*Toronto, 1950*), *Chap. IV.*

(Note: *The foregoing narrative is based mainly upon documents contained in Ernest Myrand*, 1690: Sir William Phips devant Québec (*Quebec, 1893*) *and W. K. Watkins*, Soldiers in the Expedition to Canada in 1690 (*Boston, 1898*). *There are additional documents in* Calendar of State Papers, Colonial Series, America and West Indies, 1689-1692 (*London, 1901*); *and James Lloyd's letter is in the* Report *of the Public Archives of Canada, 1912. The chief French official reports, transcribed from the French archives, are in Public Archives of Canada, Series C 11A, vol. 11.*)



an enemy must rely on night operations or suffer severe casualties. If the enemy gets air superiority, it may be necessary for us to convert to night operations.

I propose that each infantryman be trained to deliver unaimed small-arms fire accurately on flash, sound and silhouette targets at night and that he also be given training in the use of grenades and bayonet at night.

Research in night vision supports the fact that training for night operations is a science and near maximum use of our senses can be developed. Perfection in night range estimation (distance judgment) can be obtained only through training and experience. How can a grenade be thrown accurately at night if the soldier cannot estimate the distance to the target? The target may be a flash, noise, or indistinct silhouette of the enemy. In order to get more efficiency from our infantrymen and weapons at night a training programme should include:

(a) Night vision. Target recognition and estimation of distance and direction to flash, noise and indistinct targets at night.

(b) Use of individual weapons at night. Unaimed fire in darkness and in artificial light.

(c) Unaimed firing at night. Close range and close combat firing.

(d) Small unit offensive and defensive unaimed fire problems at night.

THE QUALITIES OF A GOOD OFFICER

Speech by Field Marshal Sir William Slim, GCB, GBE, DSO, MC, Chief of the Imperial General Staff, at The Sovereign's Parade at the Royal Military Academy, Sandhurst, on 15 December 1949

Officer Cadets of The Royal Military Academy. Many of you become officers today; all of you will become officers in the near future. That means that your Sovereign has selected you to lead your fellow-countrymen in battle, and than that there is no greater honour that your King and Country can do you.

In return for that honour, when you go from here, you will maintain those standards of conduct which have always been the glory of the officers of the British Army. You will show the qualities of leadership which are particularly required of you at a time like this. Remember, the be-all and end-all of an officer is to be a leader. The qualities that distinguish an officer from other men are courage, initiative, will-power and knowledge.

To take these qualities in turn. The kind of courage required is the courage that endures. Anybody can be brave for a little while, but the officer goes on being brave when others falter. He has a moral courage which makes him do his duty—do what is right without any thought of the consequences to himself.

Initiative means that you don't sit down and wait for something to happen. If, in war, you wait for something to happen it will happen all right and it will be damned unpleasant when it does. Initiative, for the officer, means that he thinks ahead, that he is always two or three jumps ahead of the men he leads and of the enemy. Keep your brains bright and flexible.

Will-power means that you will force through what you consider it to be your duty to do, against not only the opposition of the King's enemies, but against the opposition of well-meaning friends and of all the doubts and difficulties of men and nature which will assail you.

Knowledge means that you have no business to be an officer unless you know how to do the job in hand better than those you lead. When you leave here you won't have finished learning. You will never finish learning. The officer is always learning.

If you have these qualities of courage, initiative, will-power and knowledge you will be a leader, but you won't necessarily be a good leader, or a leader for good, and you won't have that grip you must have on men when things go wrong. When a man's heart sinks into his empty belly with fear; when ammunition doesn't come through; when there are no rations, and your air force is being shot out of the skies; when the enemy is beating the living daylight out of you—then you will want one other quality, and unless you have got it you will not be a leader. That quality is self-sacrifice, and as far as you are concerned it means simply this, that you will put first the honour and the interest of your King and Country, that next you will put the safety, the well-being and the security of the men under your command; and that last, and last all the time, you will put your own interest, your own safety and your own comfort. Then you will be a good officer.

I would like you to carry away from this Parade one thought, and that is this. In the British Army there are no good battalions and no bad battalions, no good regiments and no bad regiments. There are only good and bad officers. See to it that you are good officers. And good luck to you.

INDUSTRIAL USE OF ATOMS

More industrial uses for fission products from atomic piles are being searched out on a nation-wide scale by the Stanford Research Institute in a study for the Atomic Energy Commission.

The plan is to let industries know how fission products can help them and to get some idea of all possible uses for these products.

Among the uses suggested for fission products are the sterilization of foods and drugs in containers without heat, production of fluorescent lights and of new types of luminescent paints and tiles, and the tracing of pipe-line flow.

Fission products are highly radioactive elements produced by the splitting of uranium in nuclear reactors. They are of no use for power, but their energetic radiations can kill certain organisms, cause chemical reactions, and penetrate solids.

Although these fissions products are being used to a certain extent now by many industrial concerns, there are many unexplored possibilities.—*Science News Letter* (U.S.).

THE COMPANY OFFICER AND HIS MEN

Relations between the army officer and the men under his command are so personal that no regulations or directives on the subject ever completely express their meaning. For this reason, the younger and inexperienced officer usually spends considerable time striving to get the feel of what our army expects these relations to be. The more experienced officer can help guide his younger colleagues in this vital aspect of leadership.

Because this is a subject on which there is no "last word," no precise rules that apply in all cases, it is particularly fitted for consideration by both junior and senior officers.

This article is reprinted from Officers' Call *(U.S.), and while it is, of course, directed to U.S. Army officers, the information it contains should be of considerable value to Canadian Army officers.—Editor.*

* * *

In a sense, you and every soldier under your command are partners bound together by a common contract to perform the common task of defending the Nation. Under the "terms" of this contract, you and your men have definite responsibilities toward each other. As an officer, you have the obligation to take care of your men; you have the right to demand certain standards of performance from them. At the same time, your men have the obligation to maintain these standards.

The ultimate goal you both seek is effectiveness in combat. Few things will influence your unit's success in battle more than the relationships you've built up between you and the men you command. This is true whether you command a rifle company or a quartermaster company. If a rifle company commander has trained his doughboys, if they trust and have confidence in him, they'll do their utmost when they meet the enemy on the battlefield. A quartermaster company will continue to support the fighting units despite fatigue, danger, and hardships—if the men know they have a commander who is looking out for them but who expects their best efforts.

For some of you, the men you now command will be the troops you lead in combat. Therefore you have a compelling current interest in building strong relationships that will weather the common tests in the future. Others of you may never have this opportunity. But your job today is equally important. For it is you, as an individual officer and as a representa-

He considers the ideas of his soldiers.

He became bogged down in details he should have delegated to his organization.

Don't get the idea that your company is always a self-starting machine.

tive of what *all* officers are like, that your men are learning to know. The impression you make as an officer can make it easier or harder on the commander who will follow you.

There is another more personal reason why you should take advantage of your present opportunity to practice the art of managing men. There are few assignments in the Army that do not require officers to supervise and direct the efforts of others—subordinate officers and civilian employees as well as soldiers. The ability to build and maintain good relations with subordinates will help you throughout your entire service.

No one can tell you in exact detail what the relationships between you and your men ought to be. It depends on what sort of man you are, and on the particular soldiers you command.

Most of his time is spent taking care of his men.

It is affected by circumstances—your station, your varying missions, the requirements of your superiors—things you cannot always control. You can, however, get the "feel" of the *principles* underlying sound relations by discussing them with other officers and then practicing them in your day-to-day efforts under the guidance of more experienced commanders.

It will also help you to study how other commanders operate. With this in mind, let's take a look at three company commanders in an infantry battalion and see how they handled their men.

Three Captains and Their Companies

Company A

Soldiers in Company A, Captain White commanding, boasted that they had the "best deal" in the regiment. And so it appeared. Certainly the captain had the interests of his men at heart. Nobody could deny that, not even the battalion commander who sometimes grew impatient with the captain.

Captain White spent a lot of time in the mess hall supervising the mess sergeant and the cooks. "I want this company to eat better than any in the regiment," he said. And most of the time Company A did eat fairly well. But there were times when the cooks overslept in the morning, and turned out a breakfast that was below standard. Occasionally KP's would fail to clean the mess hall properly. But Captain White made up for some of these deficiencies by the conscientious attention he personally gave the mess.

It was the same thing in the supply room and orderly room. Things went well, but mainly because the captain personally concerned himself with almost every detail of the work. Rather than discipline soldiers who fell down on their jobs, he would often do their work himself.

In training, Company A performed as you'd expect. Captain White worked hard himself but seemed to fear he'd overtax his soldiers. As a result, Company A approached the confidence course with all the enthusiasm of a soldier returning from leave. Company A was usually the last to arrive on its objective during battalion exercises. Company A set a range record—in bolos. "Company A," said the battalion commander, "is being slowly mothered to death."

Company B

Company B, Captain Black commanding, was an outfit of entirely different stamp. Captain Black was a perfectionist of a kind—but not in the things that really matter.

A systematic man, he made regular inspections of his company. But in the mess hall he was more interested in

the appearance of the cooks and KP's than in the food. In the barracks he emphasized cleanliness and arrangement of equipment—but paid little attention to whether the men were getting adequate hot water. To the company supply sergeant, it seemed that Captain Black was more interested in well-shined than in well-fitting shoes.

Perhaps it only seemed this way to the supply sergeant. Actually none of his soldiers really knew Captain Black. For the captain remained aloof from his men and their problems. Because the company commander wanted it that way, the 1st sergeant's office became an insurmountable barrier between each soldier and his commander.

On the surface, Company B was an efficient and disciplined unit. It performed its duties in garrison and in the field with a certain mechanical thoroughness, but it lacked the spirit of Company C.

Company C

Company C, Captain Brown commanding, was the pride of the battalion. It was a spirited, disciplined unit which tackled every assignment with zest and confidence.

Captain Brown was a humane and approachable commander. Rarely was he too busy to see one of his soldiers who wanted to talk to him—whether on personal or official business. When he was busy, he made sure the soldier received an appointment to see him later.

Captain Brown conducted his inspections differently from Captain Black. He checked his mess to see that it was neat and clean, but he also paid particular attention to the food. He ate often with the troops. His barracks were as orderly as Captain Black's—and they also had plenty of hot water and good ventilation.

Unlike Captain White, Captain Brown made certain that everyone in the company knew his duties and responsibilities. When something went wrong, the soldier responsible was promptly informed, and Captain Brown did not hesitate to deal out punishment when necessary. He also made it a point to commend soldiers for work well done.

Training, for the soldiers of Company C, was always tough. But they responded to achieve the standards Captain Brown set for them. They boasted that they shot better, marched faster, manoeuvred more skillfully than the rest of the battalion. There were no "refusals" on the infiltration course when Company C went through.

Captain Brown had found the right balance between the extremes demonstrated by Captains White and Black. In effect, he had entered into a bargain with his men and both parties adhered to it scrupulously. This commander

He knew his men and looked after them.

knew his men and looked after them; the men knew and performed for their commander. As a *member* of Company C, Captain Brown was careful to do all that was expected of him. As *commander* of the company, he demanded that every soldier in the outfit (including himself) pull his weight on the team.

How Do Soldiers Regard Officers?

Today Captain Brown is described by many of his colleagues and superiors as a "natural leader". But it took a few years of service to acquire that reputation. Today he approaches his job with the confidence and poise of a commander who knows his men and knows that he knows them. But when he was a second lieutenant—well, let him tell how he felt.

"I'll never forget the day [Brown reminisces] when I put on my gold bars and stood before a platoon for the first time. I was a youngster then, fresh out of college, and my main trouble was I didn't *feel* like an officer. In fact, I didn't even feel like a soldier.

"I looked at the men in my platoon and I noticed that some were older than I. Never in civilian life had I been required to give orders to older men and the idea made me feel uncomfortable. Some of the privates looked almost as green as I felt. But there were others, especially the noncoms, who looked and carried themselves like seasoned soldiers. They were lean, tough men, tanned by the wind and sun. In the manual of arms they handled their weapons like a star halfback handles a football.

"Sure, I'd been trained in ROTC. But that was part-time soldiering. These soldiers had been living in the Army, doing full-time duty for years. I wondered how they felt about this Army system which put *me* in command over *them*."

As a matter of fact, how do soldiers regard their officers?

We received a recent answer to this question as a result of studies made after World War II. As the officers and men of our wartime Army returned to civilian life, it was perfectly natural for some of them to blow off steam. The disciplined military society in which these men had served had not provided all the "safety valves" for public expression available in civilian society. Now the lid was off. Phrases such as "officer caste system", "abuse of authority by the brass", "discrimination against enlisted men" were thrown about with reckless abandon.

It's absurd to claim that in an Army of thousands of officers, all performed as they should have. But the overwhelming majority did. It was therefore equally absurd to regard these complaints—as some observers did—as proof that the entire officer-troop relationship established by the Army should be discarded.

Use of Authority

In the midst of a public furore, careful and thorough studies were made of the attitudes and opinions of present and former soldiers. Neither experienced officers nor experienced soldiers were surprised by the findings.

It was established, for instance, that young Americans as a whole do not, as is sometimes charged, question the need for authority. On the contrary, they submit willingly to direction by competent leaders. They recognize that there must be a system of ranks and grades in an Army, and they agree that commensurate privileges should go with increased responsibility. What our wartime soldiers said they resented most was *arbitrary or selfish* use of authority by a leader. They resented any superior—whether officer or non-commissioned officer—who abused the authority of his rank.

Captain Brown had learned these same facts by personal experience. Had he known them when he took over his first platoon, he probably would have been more confident.

For even as an inexperienced second lieutenant, Brown's men saw that he had the makings of a competent officer. In the first place, he knew more than he thought he did. And more important, he learned fast—thereby winning the respect and admiration of his men. True, he made mistakes but abuse of authority was not one of them. His innate respect for his men, combined with respect for the Army and Nation whose authority he represented, protected him from errors of this kind.

THE COMPANY AS A COMMUNITY

Brown was a first lieutenant when he received his first company. Shortly afterward, his division went on man-

œuvres. During this training, Lieutenant Brown came to look upon his command in a new light.

He began to realize that his company was, in effect, a small community. Although remarkably self-sufficient as a unit, its members depended more on each other than people in any other community he had known.

Take the problem of food, for instance. Unlike civilians, the soldiers of Lieutenant Brown's company could not stroll into a restaurant at meal time—there were no restaurants in the manœuvre area. They depended on their own mess sergeant and cooks to feed them. If the mess sergeant failed to draw rations on time, the meal was late. If he didn't draw enough food, some men went hungry. If the cooks turned out a meal unfit for human consumption, that was just too bad—there was nothing else to eat.

It was the same with clothing. If a soldier's shoes needed repair, if torn clothing or damaged equipment needed to be replaced, he depended on the supply sergeant to take care of him.

Everyone Contributes

The supply of food, clothing, and equipment depended, to a great extent, on the company's transportation. If the jeeps broke down, supplies were delayed or didn't arrive at all. It was up to the company's transportation officer and drivers to keep the jeeps rolling.

In this military society, the individual soldier's health was more than his own personal problem. It was the responsibility of Lieutenant Brown, the platoon leaders, and noncoms to see that all soldiers obeyed the simple rules of field sanitation. If a soldier's feet became blistered, a company aid man was available to treat him. If a soldier became ill, the company commander made sure he got to the dispensary.

During manœuvres there were few sources of entertainment outside the company itself. Some nights, the company comics performed about company camp fires. The 3d Platoon had a guitar player and a quartet that everyone agreed were better than many professional entertainers.

Even in the manœuvre area, Lieutenant Brown was constantly reminded that his men had obligations and responsibilities beyond those they owed the Army. He arranged an emergency furlough for one soldier whose mother had died. (He also remembered to send a letter of condolence to the soldier's family.) Another man became involved in a law suit. Lieutenant Brown sent him to the division judge advocate to get legal advice. A letter came through channels from a soldier's wife who complained he was not sending her enough money to support her and the children. Brown discussed the matter with the soldier to get his side of the

story and to offer advice. Two soldiers of Company C received word, during manœuvres, that they had become fathers. Lieutenant Brown congratulated them and made it clear that he appreciated the importance of this news.

The Job Never Ends

These are random examples of what Lieutenant Brown referred to as the "administrative" part of his job as company commander. He was careful not to neglect any of them because he recognized their vital influence on the way his men would tackle their primary mission—training.

Lieutenant Brown discovered that the job of training never ends. Even when his superiors complimented him on the performance of his company, he kept thinking about all the things he still had to teach his men. When some of the men in his rifle platoons seemed to grow "stale" from their training, he arranged for men in his Weapons Platoon to swap places with them for a while. To develop leadership in depth throughout his company, he frequently gave the junior noncoms a try at the jobs of senior noncoms.

By the time manœuvres were over, Lieutenant Brown himself had grown in maturity and experience. He had become more aware of the responsibilities he shouldered as an officer. True, he received help from both inside and outside the company in training his men, feeding them, clothing them, keeping them in good health and in good spirits. But he realized that he alone had the ultimate responsibility to see that these things were done. This final responsibility of command, he saw, could never be delegated. For this was *his* company, these were *his* men. Every man depended finally on him, and he in turn depended on them.

Managing Men

If you were to ask a dozen successful commanders to list the most important personal qualities of a leader, you'd get a wide variety of answers. Ask the same group to describe the techniques they employ to manage the men in their commands and you'll also find divergence of opinion.

The reason, of course, is that the whole personality of a man affects the way he performs as an officer. That is why men of greatly differing personalities can become equally outstanding troop leaders.

That is also why we won't attempt here to isolate specific traits and assert that all officers should strive to develop them, nor discuss techniques of command as if all officers should copy them exactly. Rather, we'll describe how one outstanding commander, Captain Brown, managed his men.

He Listens to His Men

When he was an inexperienced platoon leader, Brown had looked

often to his noncoms—as well as to his company commanders—for advice and counsel. With increased service and experience, he grew less dependent on them for help. But he never outgrew the habit of listening to the advice of his subordinates—privates as well as noncoms and junior officers. He has never believed his own ideas to be infallible. As a commander, he has learned to select the best solution to a problem regardless of its source.

Captain Brown feels strongly about this. He points out that there are brains and experience among his men. Some of the older soldiers held responsible jobs in civilian life. A few are trained in various professions, some are skilled craftsmen, many were students of above-average ability. Brown boasts that in his outfit are men who can design bridges, build houses, repair watches, run locomotives, butcher cattle, or write novels.

"Who am I," Brown asks, "to ignore all this talent and experience?"

According to Brown, his attitude has proved helpful both to the men and to himself. The soldier who knows he can approach his company commander and offer recommendations feels that he has a part in helping to run the company. Even if the commander decides against a suggestion, the soldier has the satisfaction of knowing that his idea has been heard and considered. When the commander is able to act on a soldier's suggestion, and the company performs more efficiently because of it, the soldier gets a much deeper satisfaction. His sense of personal responsibility for the success and good name of his company is greatly strengthened.

He Develops His Men

Captain Brown says he sometimes feels like a football coach because he spends almost as much time thinking about his "second" or "third" teams as he does about his "first" team. Here's what he means:

A company commander must be realistic when he trains his unit for combat. He knows he'll lose men in battle and through accidents or sickness. Some of these casualties will be key men. Others must be ready to take their places. "If you don't have a second team you can depend on," says Brown, "you'd better start training one now."

Here again, Brown points out, the morale of the individual soldier is involved. Most men have a deep-seated desire to improve themselves, to assume jobs of greater responsibility. The wise commander encourages this ambition in his soldiers. He develops his men by giving them added responsibility commensurate with their ability and experience.

When an untrained civilian first enters the Army, he usually has his hands full taking care of himself and learning the fundamentals of soldier-

ing. Some are quicker than others in mastering the basic tools of the military trade and their duties on the combat team. The company commander should watch these men especially. He should study all his men in the search for potential leaders. Superior soldiers of normal ambition become frustrated by long assignment to minor routine jobs. It's up to the commander, says Brown, to give these soldiers their head, to develop them. If there is no position vacancy for them in the company's important slots, they should be trained as replacements for those jobs until vacancies occur.

He Makes Decisions

A good company, says Captain Brown, is like a team of spirited horses. You rarely have to prod it into action. You have only to guide it in the right direction.

But to do this you have to make decisions. The company commander daily faces situations calling for dozens of decisions. Some are so minor they can be made on the spot with only a moment's thought. Others demand determination and more careful study of the factors involved. Many require consultation with superiors and subordinates. In any event, Brown emphasizes, the commander should make all decisions as rapidly as possible. If he dawdles and procrastinates he weakens, and may even destroy, the desire for action that he has been trying to develop in his men.

This does not mean that the commander should go off "half cocked" merely for the sake of making a rapid decision. Troops have special dislike for false starts caused by ill-considered and hasty decisions. There are occasions when the best decision is to take no action, at least for a time. When this is the case, says Brown, don't forget to let your men know why no action is being taken.

Captain Brown habitually makes rapid decisions. He says it's because he has consciously developed this habit. His superiors say it's because he knows his job. Both are probably right.

Building the Unit

It's the easiest thing in the world, says Captain Brown, for a company commander to get bogged down in the maze of details that form the bulk of his daily work. When this happens, it means he has forgotten that his organization exists to take care of these details, and that he can operate most efficiently by working through his men.

Therefore, Brown contends, the company commander should spend a good part of his time building his organization. This includes close study of his men to find the right soldier for the right job. It also includes development of a unit *esprit* that welds the

individual soldiers together as a team.

Your goal, says Brown, is to reach the point where the individual soldier thinks more of the unit's welfare than he does of his own personal desires. This theme should usually be emphasized by a company commander when he finds it necessary to punish a man. Says Brown, "The soldier being punished should realize that he has wronged the company, not the company commander or an impersonal code of military law. Moreover, every man in the outfit—including the soldier punished—should feel that the offender is getting his just deserts."

Once you create a sound organization, Brown contends, the rest of your job is easy. All you have to do thereafter is to keep the organization in good working condition.

These are just a few of the random thoughts that Captain Brown left with us before he and his unit departed for Korea. They are some, but hardly all, of the most important things for a commander to consider in managing his men. We're not even sure that Captain Brown has included everything he thinks is most important. We *are* sure that he does not claim to know all the answers. He would be the first to admit that he still has much to learn about the art of leadership.

His ideas on the subject came from his personal experience and training. They are what one commander thinks.

A Letter from Korea

The other day we received a long letter from Korea. It was from Captain Brown and here's how part of it read:

"You ask me what I've learned after six months of combat. Well, I've learned a lot of things. But the most important lesson that war has taught me is something I knew before I left the States. My combat experience has just given it more emphasis.

"The lesson is this: Take care of your men and they'll take care of you. Sure, I know you've heard this a thousand times before. But it's true! Let me give you some examples:

"It was rough over here when we first arrived. The Reds were attacking all along the front and we were rushed to defensive positions the minute we got off the boat. My company was given a front of *two miles* to defend. (You know what the field manuals say.)

"I put the platoons in and then I climbed up and down the hills to inspect their positions. We'd been told to expect an attack any minute and I figured my men would be nervous about the wide open spaces between platoons. They weren't. In fact they were a lot more confident than I felt. 'Don't worry, Captain,' said one of my squad leaders, 'we can handle anything that comes this way.' I couldn't help smiling at the remark—his telling *me* not to worry!

"The Reds hit us soon after that and it was really something. You can't imagine how helpless a company commander can feel during a fight like that. Sure I could talk to my men—at least to some of them. But wire lines went out, radios were jammed or destroyed and I could gain contact with only one of my platoons. I helped out some by getting artillery fire and by telling my Weapons Platoon where to place mortar and machine gun fire.

"But the real brunt of the fighting was squarely on my men. If the platoons, the squads, the individual soldiers held, everything would be okay. If not—Never in my life have I felt so dependent on others.

"My men did hold. Not only that but they later counter-attacked and I think some of those commies are running still . . .

"If you think you can forget all those 'administrative details' when you get in combat, you're wrong. I looked through my pocket notebook the other day. There were a few pages of battle orders. But . . . about 90 per cent. of your time is spent taking care of your men. The big difference is that over here they depend on you a lot more than they did in the States. During stateside duty, a lot of things are done automatically for your command by somebody else. And over here the supply people do a good job getting the things we need up to the company. But you're the one responsible for getting the food, ammunition, clean socks, and all the rest of it to the men who need them. You're the one who keeps an eye open for an opportunity for them to take a bath, to get writing paper or newspapers or the hundreds of things they want . . .

"Over here you get closer to your men than ever before. Remember, you live with them 24 hours a day. And there is nothing I know of that brings men closer together than sharing the dangers of combat. I thought I knew the soldiers in my company pretty well when we were in the States, but now I know many of them better than people at home I've known all my life.

"In combat, it's highly important that you know your men. You've got to know what each man can do and what he can't do. Let me give you an example:

"About a month ago I visited my 3d Platoon and got to talking with the platoon sergeant. This man is one of the best I've got, a whiz on leading patrols. This day, however, he was acting strangely. Ordinarily, a talkative and confident man, he was quiet, morose, and jittery. He looked worn out. I talked to his platoon leader but this officer had joined us recently and couldn't help me much. Then I questioned one of the other noncoms who spoke quite frankly. 'The trouble with Sergeant Jackson,' he said, 'is that he's been on too many patrols. He's just shot his bolt, Cap'n.'

"Of course! Jackson was so good on patrols I'd fallen into the habit of using him nearly every time I had a patrol mission. Without realizing it, I'd given him more than his share of dirty, dangerous assignments. No wonder the man was exhausted.

"We'd had a call from regiment to send a good noncom to Division to help handle incoming replacements. So I sent Jackson back for this job. He was gone about a month on a detail that was supposed to last two months. The other day he reported into the company CP looking rested and fit. 'Back for duty Captain,' he said. 'I got lonesome for the outfit.' Jackson's with his platoon now and he's doing better than ever . . .

"Don't get the idea that your company is always a self-starting machine. Sometimes you have to crank it up to get it going. Not so long ago, we made an attack which was exceptionally tough—straight up the side of a steep hill against the commies who were dug in up to their eyebrows. My men were tired—we'd taken a lot of hills and here was another. It was way below zero and it seemed an effort just to stay alive, much less fight. You know how I feel about my men—they're tops. But in this attack I could sense their reluctance, their desire to hold back.

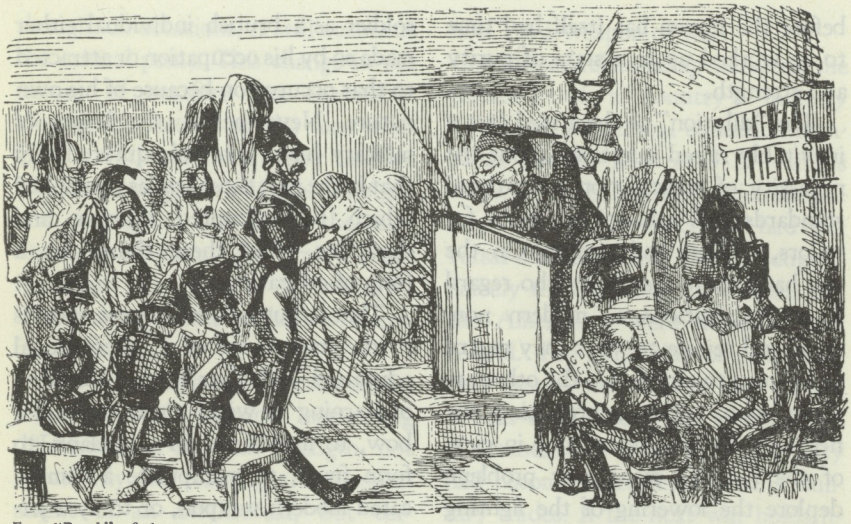
"Well, I kicked them out and we got going. My 1st and 2d Platoons got half-way up the hill and got pinned down. They clung to the side of that icy slope like flies on a ceiling. I told my 3d Platoon to go in on a flank and go in fast.

"They went in all right—like men walking in their sleep. At least they did until I chased after them and woke them up with a few words not ordinarily repeated in unit histories . . . They took the hill.

"So that's the way it goes over here. You and your men are a tight little group doing a tough and important job thousands of miles from home. You're cold, dirty, hungry and frightened together. For the commander, it's especially tough and the weight of command is something I can feel like a physical burden.

"Do I sound discouraged? Perhaps that's because I'm describing the responsibilities of my job. But as far as I'm concerned, I wouldn't trade my command for the plushiest job you've got in the States.

"Let's put it this way: I get my reward for what I'm doing every time a soldier in my company speaks to me. For I can tell the way he looks and the way he acts that *he* thinks I'm a good company commander."



From "Punch", 1846

"LEARNING RULETH BOTH WAR AND PEACE"

(*A statement made by Roger Ascham, a schoolmaster in Queen Elizabeth's Reign*)

By

PROFESSOR R. A. PRESTON, DEPARTMENT OF HISTORY, ROYAL MILITARY COLLEGE OF CANADA

The present emergency has led to the lowering of the educational standards for entry to the Canadian armed forces, both to commissioned and to other ranks. This step, dictated by an international situation that is more like one of war than one of peace, reverses a policy deliberately adopted after the end of the Second World War. That policy was based partly on the belief that the Canadian regular forces, which were to be regarded chiefly as the nucleus of any force recruited in a future emergency, must be composed of men of a higher-than-average level of education and intelligence so that they could effectively perform, if need be, the function of leavening the great mass of the nation-in-arms. The emergency has arrived

before the leaven has itself had time to be worked up to a state of purity and strength.

The "dilution" of the armed forces inevitably raised questions about the necessity of insisting on educational standards and educational tests for sailors, soldiers and airmen. On the one hand there are those who regard such qualifications as modern nonsense and rejoice at what they regard as a return to sanity. On the other are those who, while appreciating the necessity for the present step in view of the nation's manpower problem, deplore the lowering of the fighting efficiency of the services. That difference of opinion cannot be resolved now and is, in any case, largely academic. The dilution is inevitable; and the higher educational standards did not really have time to make themselves felt. We must leave a judgment on the post-war educational policy to posterity.

There is value, however, in pausing at this moment to reflect on the history of the relation between education and military service. Some of its lessons are revealing. The first one is that this dispute about the necessity or otherwise of educating the soldiery is not a modern one created by a modern fad or by mechanization but has actually been fought out as long as armies have existed. There has always been a tendency on the part of uninformed civilians to scorn the soldier as a brutish individual either made so by his occupation or attracted to that occupation because of his own nature. Nevertheless, the lesson of military history reveals quite clearly that in the past those armies triumphed which had accepted training and discipline. And these things are a form of education.

That argument, of course, points to the importance of a "professional education" whether it took the form of learning to wield a pike, to pull a bow, to manœuvre in a phalanx, to form fours, to manipulate a complicated modern weapon, or to fly a jet-plane. No one would deny the necessity in all ages for such a "professional" or "technical" education closely related to the soldier's task. The growth of modern science has simply made the soldier's professional training or education all the more important and has brought it more closely in line with technical education for civil pursuits. Much of the technique of modern war depends on a scientific and general education. These things have become part of the soldier's professional training, particularly in the use of certain arms and weapons.

The effect of technology on war has had another result. Opposing forces have fought each other at distances that have grown steadily greater through the ages. Hand-to-hand combat has become appreciably rarer even

though, on occasions, it still occurs at the critical point. This change in the nature of warfare has inevitably altered the nature of the men who fight and the training they receive. No longer is great physical strength and courage in hot blood the only necessity. Cunning has grown more important in relation to strength. The training of the soldier has therefore changed.

The morale to endure bombardment from afar off requires something different from physical strength, not necessarily the training and temperament of an intellectual, but certainly not the physical bravery of a pugilist. It requires "guts", but a different kind of "guts". As the record of the last war appears to show, resistance to aerial bombardment is in some way related to the general standards of education of the population and to the discipline which those standards bring. An earlier example of the same kind of thing can be seen in the First World War when the capacity of the civilian-soldiers for taking tremendous strafing surprised the professional generals. Civilian soldiers, after a brief training, stood up to bombardments which might have broken regulars a few years earlier. Their resistance depended largely on "morale" and on the adaptability induced by general civilian education. General education, since it makes possible "indoctrination", is a weapon of war.

A direct relationship between the efficiency of a country's military forces and its general education standards can be illustrated in various ways. Those belligerent nations in the First World War which had had universal education and literacy longest, namely the Germans, the British, and the Americans, were the most successful. The same kind of generalization can be made about the Second World War, except that by that time the standard of entry to a university had become necessary for many military trades. If the next war holds itself off long enough a university degree may be required of many of those who fight it!

The relationship between education and military efficiency is clear and has been recognized by governments. It is not without significance that educational tests in the armies have almost invariably been introduced immediately *after* a war. A comprehensive system of examination for promotion of NCOs was introduced into the British Army after the South African War. After the First World War with Germany elementary general education became a normal feature of military training. And in the Canadian Army after the Second World War it became necessary for practically every aspirant to a commission to have a university degree or its equivalent.

The introduction of educational reforms for civilian population also frequently occurs immediately after wars and may perhaps be regarded, to some extent at any rate, as being a result of the realization that an educated population can provide a more efficient army. Universal elementary education came in England in 1870. Is it a mere coincidence that this was close on the heels of the forceful lessons of the American Civil War and when Prussian might was being demonstrated on the continent? Cardwell's reorganization of the British army came in the same year. The provision of public secondary schools in every English county and city was made compulsory by the Education Act of 1920, less than two years after the First World War. It provided the "matriculants" who serviced the radar sets and flew the planes a generation later. And the Second World War was similarly followed by a vast plan of educational reform in England. A highly educated people is more effective in war than a backward people. And the trend is ever upwards. He is a brave (or foolhardy) man indeed who dares to say that the time has come to reverse it.

There are those, of course, who argue that too much education has an adverse effect on fighting efficiency, that illiterate populations produce the best regiments, and that the dumb soldier is the best fighting material. On the other hand, it is obvious that modern armies cannot fight without sufficient general education to make communication of orders possible, and that improvement in general education can have an important bearing on both technical efficiency and morale.

But these are generalities and may not appear to have much bearing on the particular qualifications required by the individual soldier. Even here the lesson of history supports the argument that education, even a general "academic" education, has a direct bearing on military success. It is a fact so well-known that it almost need not be repeated that the so-called "Great Captains" were men of learning and education. The real test of "learning" or "education" is the capacity to absorb from the books the accumulated wisdom of past ages. Practical experience is essential; but no amount of day-to-day experience can equal the knowledge and the intellectual training that can be acquired by reading.

The libraries of leaders like Napoleon and Wellington are impressive. Wellington was self-taught. He had not taken kindly to the classical schooling of Eton, but early in his military career he set out to educate himself by wide reading. About the books which Wellington purchased to take to India Mr. Guedalla writes, "Men will frequently buy books with

the simple object of display, but, rarely when the books are to be their sole companions in distant countries." Wellington's library included great tomes on oriental history so that he could soak himself in the culture of the part of the world where he intended to make his name by military deeds. And his biographer detects that he learned many lessons from his wide reading in military history.

His contemporary and rival, Napoleon, on the other hand, while at Military Academy of Paris had established himself as a student not far from an academic recluse. Here is his character as set down in his testimonial from the Academy. "Retiring and diligent, he prefers study to amusements of any kind, and delights in the reading of good authors; he is devoted to abstract sciences, with little leaning to others, is well versed in mathematics and geography; is taciturn, loves solitude, is obstinate, proud, and exceptionally inclined to egotism; speaks little, is energetic in his answers, ready and severe in his refutations; possesses much love of self, is ambitious and hardworking. This man deserves to be pushed on." With such a report many modern assessors would probably rate Napoleon low in "officer-like quality"!

Robert Clive, after a restless and ill-disciplined youth, during his early manhood in India "spent his leisure in the library of the Governor of Madras poring over Plutarch's *Lives* and Livy, preparing for that vague destiny." Wolfe, when posted to Glasgow, took advantage of the existence of a famous college in that city to satisfy a long-standing ambition "to atone for the deficiencies in his education." His biographer, Beckles Wilson, wrote, "Brother officers at the mess might have derided this as an unnecessary aspiration after an undue piety." Wolfe wrote to his mother, "two hours every day are given up to application: in the morning I have a tutor to instruct me in mathematics: and in the afternoon another comes to assist me to regain my almost lost Latin. The College furnishes abundantly all the arts of learning to the inquisitive."

Montcalm also became well versed in Latin, Greek and history and was a gifted young man with a retentive memory and a scholarly interest. He told his father that one of his aims was "to read in moderation; to know as much Greek and Latin as most men of the world; also the four rules of arithmetic and something of history, geography and French and Latin Belles-Lettres, as well as to have a taste for the arts and sciences; to be fond of intellectual accuracy, if I do not possess it myself." While in camp Montcalm found time to read German and Greek.

General Brock, a great athlete, despite the jeers of his fellow-ensigns,

was accustomed to lock himself in his room among his books. The frequency with which great generals developed their own education by intensive reading during the early years of their military career is a lesson which should not be lost on present-day officers.

The elder von Moltke, who has often been called the "greatest Commander of modern times", was first and foremost a scholar. He had remarkably little service with the troops, having served only five years as a lieutenant before being posted to the General Staff. With no experience of command at the company or higher level he became the virtual commander-in-chief of the Prussian army against Austria; and he astonished the world by his brilliant leadership. The secret of his success was the training to which he had subjected himself. He had studied geography, physics, history and military history and had worked on topography. He had become one of the best writers of German prose and one of his spare-time occupations had been the translation of the six volumes of Gibbon's *Decline and Fall of the Roman Empire* into German.

To turn to the present time, it will at once be recalled that Field Marshal Lord Wavell was both a scholar and a writer as well as a great soldier. Wavell had been a quiet, studious boy and the headmaster of his school, Winchester, greatly deprecated him "misusing his talents" by taking the "desperate step" of going into the army where "brains were not necessary." Wavell's military achievements speak for themselves and his writings on the Palestine Campaigns are too well-known to all Canadian officers to need further mention.

General Hans Speidel, while studying for the German Staff College, continued at the same time to read for a doctorate at Tubingen University and he obtained his Ph.D. *summa cum laude*. He was one of the most effective members of the German General Staff.

General of the Army, Douglas MacArthur, stood first in his class at West Point. The scholarship of General Eisenhower and Field Marshal Montgomery is amply demonstrated by the books they have written.

Even if one attributes the success of Prussian armies in modern times to the work of the General Staff rather than to an individual commander, the lesson is the same. In an article on the "French and Prussian Staff Systems before 1870" in the *Journal of American Military History*, Vol. II, D. D. Irvine shows that Prussian superiority was based partly on a better organization of the General Staff but also on the excellence of the education and training at the German War College from whose graduates the General Staff was almost entirely recruited. The *Kriegsacademie* corre-

sponded to the professional schools at the universities and entry to it was by a highly competitive examination. In contrast, the French system was less successful. The French corps of staff officers were selected for the Staff College when too young and too immature to benefit by advanced "professional" or "graduate school" type of education. They also had had less experience in regimental duties. The difference of educational qualifications went a long way towards explaining the Prussian victory. "The primary cause of the French military collapse in 1870 was previous reliance upon a vicious system for the education, promotion and assignment of officers."

But all men cannot be "Great Captains" or even Staff Officers, and perhaps the training for the ordinary officer is different. Listen to Wellington sending advice to a young man seeking a military career. "As for John, you must impress upon his mind first that he is coming into the world at an age at which he who knows nothing will be nothing. If he means to rise in the military profession—I don't mean as high as I am, as that is very rare—he must be master of languages, of the mathematics, of military tactics of course, and of all the duties of an officer in all situations. He will not be able to converse or write like a gentleman . . . unless he understands the classics; and by neglecting them, moreover he will lose much gratification which the perusal of them will always afford him; and a great deal of professional information and instruction. He must be master of history and geography, and the laws of his country and of nations . . . Impress all this upon his mind; and moreover tell him that there is nothing like never having an idle moment."

Wolfe's advice to a would-be officer was that he should read Vegetius, Caesar, Thucydides, Xenophon, Polybius, Davila, Guicciardini, Strada and the Memoirs of the Duc de Sully. He also recommended a study of the campaigns of Gustavus Adolphus, Charles XII of Sweden and Zisca the Bohemian. He himself read Montesquieu, Shakespeare, and Milton. He had Grey's *Elegy* with him on his expedition to Canada and his copy was liberally annotated.

With regard to the selection of potential officers there are again various schools of thought; and the problems disputed now are not new and have all been fought out long ago. Training with the chosen service, mainly a professional training, is advocated by the "catch 'em young" school. On the other hand there are those who insist on the selection of young officers from those whose general education has already reached a certain point. Which of these methods is the better depends to some extent on the nature of the service and

the commission. But there are some trends in history which must be reckoned with.

Michael Lewis, professor at the Royal Naval College at Greenwich, in his book *England's Sea-Officers*, comments thus on what he calls the "recent discovery of the importance of a general education":— " . . . A man, however expert in his own particular job, will be a much more effective entity in every way if the rest of his mental outfit is developed at least up to normal standards. And this, which is true of all professions and other walks of life, is particularly the case of a profession which is, by its very nature, active rather than sedentary, and demanding contacts with men as well as with machines." Professor Lewis showed that in the Training Ship scheme introduced in the nineteenth century for the Royal Navy an officer's general education stopped the moment he entered the *Britannia*, that is approximately at the time when, if he had been headed for a civilian job, he would have gone to his Public School. (An English "Public School" takes in boys at thirteen or fourteen). Under the cadet college system introduced later the "general education" of the future officers was taken care of either in the cadet college itself or else in the "Public School" before entry.

Even so, a provocative and thoughtful article in the *Naval Review*, May, 1949, should be noticed. The writer, apparently an officer in the Royal Navy, attributed an alleged inferiority in efficiency in the Royal Navy during the Second World War by contrast with the U.S. Navy to the conservative attitude of the R.N. and particularly to its inability to produce an educational system which would develop men of vision on a large scale. This thesis was, however, vigorously rejected by traditionalists in later issues of the *Review*. Yet in the United States, the Holloway Report after World War II had called for an even greater emphasis on "General Education" in the training of naval officers!

Germany, long the premier military nation, always fully realized the necessity for educating its soldiers. The German army during the Second World War undoubtedly had a higher percentage of Ph.D's than any other army. After Versailles the German army was limited to 100,000 men, but every man was selected by the severest standards and subjected to an intensive technical training. Every man was a potential officer. Professor Vagts in an article on "War and the Colleges" in *American Military History*, Vol. IV, written during the war, suggested that the American army which was roughly comparable in size with Germany's Treaty Army had not contained the same high academic standards and that therefore the United States had to draw upon

the colleges to supply the deficiency. He said "The term 'academician' can no longer be used to describe one shrinking from the violence of the world; nowadays the academician is precisely the man best fitted to stand at the front and fight."

During the recent war a committee was set up under Sir H. L. Guy, C.B.E., D.Sc., to examine the requirements of the British Army for officers. The purpose in establishing the committee according to Lt.-Gen. Sir Ronald Weeks in his Lees Knowles lecture, was to suggest an educational system for the officers of the British Army, one aim of which appears to have been to remove the "stigma" attached to the label "technical". It is interesting to notice, however, that one of the chief proposals of the committee was the establishment of an "Imperial Military College" on the lines of a University with undergraduate instruction for two or three years, with a graduate school for specialists, with research facilities, and with a civilian "Principal". Such an institution would obviously have given much more attention both to general academic and to special technical education than the pre-war British cadet colleges had done. The Director of Studies at Sandhurst has described the new Royal Military Academy course which combines R.M.C. Sandhurst and R.M.A. Woolwich as an attempt to give every British officer "at least the equivalent of a University Pass degree." These illustrations suggest that there is a strong long-term trend towards the raising of both the general and the technical educational standards for service officers. There is, of course, as there always has been, considerable resistance to this trend. Some of the resistance is due to a misunderstanding. No advocate of stepping-up the general educational levels would insist that academic qualifications were the only requirement for an officer. Personality, character and qualities of leadership are also essential. A potential officer cannot do without both a sound general education and a training in leadership; and to a surprising extent the two sides of a cadet's training run together.

There are, of course, those who advocate that athletic qualifications are a better clue to potential competence as an officer, to character and leadership, than are academic and intellectual attainments. However, in a minute to the Secretary of State for War in 1941, Mr. Winston Churchill wrote as follows: "In my experience, based on many years' experience, officers with high athletic qualifications are not usually successful in the higher ranks." On the other hand, some would argue that the introvert who scorns all kinds of sports might be unsuccessful in the junior officer ranks.

The belief that the athletic type of boy, who would be excluded by a raising of educational standards, would make the best officer, has been advocated for over a hundred years. The legend that Waterloo was won "on the playing fields of Eton" may be partly responsible for it. Unfortunately for the validity of that argument the vast majority of Wellington's troops were not English; and the victory may be more fittingly attributed to Wellington's intellectual tastes as a young officer than to the athletic interests of his officers. He himself had not been outstanding as a boy at Eton either in scholarship or sport.

Around the middle of the nineteenth century hesitant steps were taken towards introducing education into the British Army. In 1851 the vote for the Royal Military College was opposed upon the grounds that the examination of officers for promotion was "most humiliating to high-spirited, high-bred and high-minded officers who will not submit to being pedagogued like school boys"; but in defence of military promotion examinations it was argued in the House of Commons that, as the army had already begun to insist on an educated soldiery, it would be necessary also to educate their officers lest the latter should "fall into contempt with their better informed inferiors." It was suggested that a person of officer's rank and station should be attached to each regiment as a captain without a company to act as an instructor for the officers; and it was believed that the society of "such a man of information and letters" would be eagerly sought in service circles.

In 1852 General Sir John Fox Burgoyne took a decided stand against a great popular demand for educational tests for the army on the grounds that they were "uncalled for, delusive and mischievous . . . At the Public school will be found one set of boys who apply to their studies, and make greater progress in them; another set takes to cricket boating, swimming, etc. Now of the two I should prefer the latter, as much more likely to make good officers, but they are to be absolutely rejected and forever, unless they can come up to the mark in other matters, which are of no absolute use to them in their profession." Unfortunately for General Burgoyne's case he was writing only a few years before the Crimean War when the general incompetence of the army was revealed as never before.

But the opposition of the "anti-intellectuals" to education attainment and an insistence on sports remained. General Fuller reports that as late as 1930 a British Major-General was adversely reported on for not playing field games.

At the time of the Franco-Prussian

From "Punch", 1846

War the French army was particularly "anti-intellectual". A studious officer was normally regarded with suspicion and was called a "Cossack" because he was riding his studies. Only cartography was thought worthy of attention. One French captain's candidacy for promotion was supported by the fact that his chief interest was the study of geology. The board of officers thought nothing of such a qualification and would have rejected him outright had someone not pointed out "he rides a horse like a centaur." French achievement in the war with Prussia does not enhance one's respect for the standards by which French army officers were selected.

General Lord Wolseley, writing from Gibraltar in 1897, presented the case between athletics and academics more impartially. He said, "I hope the officers of Her Majesty's army may never degenerate into bookworms. There is happily at present no tendency in that direction, for I am glad to say that this generation is as fond of danger, adventure, and all outdoor sports as its fore-fathers were. At the same time, all now recognise that the officer who has not studied war as an applied science, and who is ignorant of modern military history is of little use beyond the rank of captain. The principle of selection, pure and simple, is gradually being applied to the promotion of all officers, especially in the higher grades. As years go on this system will be more and more rigidly enforced." The South African War, following only a few years later, rammed home the necessity for the improvement of educational requirements.

Another source of resistance to the improvement of educational standards in the army is the belief, rarely openly admitted, that qualities of leadership are the monopoly of an "upper class". This belief now frequently shelters behind other "fronts" like the virtues of athletic interest and attainment or

the necessity for good "character". The tradition that military leadership is the prerogative of an upper class is, of course, an inheritance from mediæval feudalism which has lingered strangely in our modern bourgeois society.

There may indeed be some justification for the belief that the type of education given in an English Public School fitted a man for leadership, at any rate in the junior ranks, and particularly in a society where class distinctions were deeply engrained and where the lower classes were as conscious of them as the upper classes and had a long tradition of subservience. But that day is passing in Britain; and it has had little place in a North American society.

Mr. Winston Churchill has published a series of blistering minutes on this question of class distinction in the appendices of *The Gathering Storm*. He wrote:— "It seems very difficult to understand why this candidate should have been so decisively rejected [by a naval officer-selection board] in view of his high educational qualifications, his Service connections, and his record . . . One has to be very careful that class prejudice does not enter into these decisions . . . I do not at all mind 'going behind the opinion of a board duly constituted' or even changing the board or its chairman if I think injustice has been done. How long is it since this board was remodelled? I could not help being unfavourably struck with the aspect of the Dartmouth cadets whom I saw marching by the other day. On the other hand I was enormously impressed with the candidates for commissions from the ranks whom I saw drilling . . . Let me have a list of the whole board with full records of each member and the date of his appointment . . ."

Later he wrote, "I have seen the three candidates. Considering that these three boys were fifth, eighth, and seventeenth in the educational competitive examination out of more than ninety successful, 320 qualified, and 400 who competed, I see no reason why they should have been described as unfit for the Naval Service. It is quite true that 'A' has a slightly cockney accent, and that the other two are the sons of a chief petty officer and an engineer in the merchant service. But the whole intention of competitive examination is to open the career to ability, irrespective of class or fortune. Generally speaking, in the case of candidates who do exceptionally well in the examination, the presumption should be that they will be accepted. Similarly, those who do very badly in the educational examination may nevertheless in a few cases be fit to serve . . . Cadetships are to be given in the three cases mentioned."

A method of selecting those who fail badly in an examination and are

suitable for commissions would, however, be difficult to devise. The estimation of that mysterious attribute, "O.L.Q." (officer-like quality), is one on which remarkably little agreement can be reached. Independent judgments by experienced officers frequently differ most markedly.

"Character" is a surprisingly elusive quality to pin down in potential officers. While a general agreement may be reached on a few individuals, the widest differences of opinion develop about others. And too often an estimate of potential officer-like qualities of this vague sort is unconsciously fashioned by the prejudices of the officer making the judgment.

A particularly glaring illustration of this can be found in German military history. Despite the high intellectual standards of the Prussian General Staff the Prussian army in the nineteenth century suffered because the Military Cabinet, army corps commanders, and the Officer Corps generally, succeeded in whittling down the educational tests for junior officers and finding means whereby the aristocracy could avoid them. The Prussian bourgeoisie, whose general educational attainments far outstripped those of the nobility, were admitted as officers grudgingly only because they could not be done without. In 1808 the regulations which laid down for admission to army commissions had placed "good useful character" side by side with "useful knowledge". The character test, however, became a *pons asinorum* by which the duller members of the nobility could enter the Officer Corps. "Presence of mind, punctuality, order and decent behaviour" could, by the King's grace, admit a candidate who had failed the entrance examinations three or four times.

Even after the reforms of 1860 this practice persisted. Educational weakness could be overlooked if "character" and other gifts were promising. But as the actual character of unsuccessful candidates was seldom really fully disclosed to the examining commissions the criterion came to be the candidate's origin, his father's position, and his wealth. In other words class was the standard and not character.

An inspection report of the German schools in 1883-4 discovered that "an unpleasantly large proportion" of the worst 120 cadets came from families which had for generations traditionally belonged to the officer corps. Even so the tendency to lower the general educational standards for commissioned rank was maintained and the aristocracy tried to keep the army as its exclusive preserve. The excellence of the German General Staff could not compensate for the weakness of the German Officer Corps. The Great War led to a necessary "dilution" by the admission

of bourgeois officers which probably actually improved the army's efficiency. At any rate, an American military historian, Professor Vagts, has claimed that the most obvious failures among the German generals were members of the old aristocracy; Moltke, Falkenhayn, von Prittwitz und Gaffron, and Waldersee who stand out in contrast with the single bourgeois failure, Lieutenant-Colonel Hoesch of the Marne. Had the educational standards of civilian Prussia and of the General Staff been applied to admission to the Officer Corps the result of the war might have been very different.

An A.D.C. to Frederick the Great once wrote, "The art of war calls for a vaster amount of knowledge and more inborn talents than any of the other arts, in order to form a system of mechanics which does not, like the actual one, rest upon immutable laws, but upon unknown and therefore indirectable indications of the soul, and works with levers and windlasses which have feeling and will. Through fate it has received in modern times a primary moving force, i.e. gunpowder to which human courage and human strength are unequal and will remain so." War deals with people; and people are incomprehensible. The social studies, because of the number of unknowable and unmeasurable quantities, are vastly more complicated than the natural sciences.

Undoubtedly, the best training for war can only be had in war. But wars are not always with us; and to wait for the beginning of a war to commence training is a dangerous principle. Many soldiers advance in time of war without "book-learning" and come to believe that general education is therefore not necessary. The generals of the eighteenth century and Napoleonic Periods rose from obscurity during a long process of selection in actual war by dint of that force of character and native acumen for which theory can be no substitute and which can dispense with theory under favourable circumstances. Men who had learned war from war tended to assume that war had to be learned in the way that they had learned it and practised as they had practised it. It took the long period of comparative peace in the nineteenth century to teach the lesson that war must, in peacetime, be learned from books.

To some extent the effect of the two World Wars of the twentieth century has had the same effect. Indeed the fact that educational standards have been raised after each of the wars is an extraordinary tribute to the wide vision of the men who planned the changes. A long period of "cold war" might, however, ultimately lead to the reversal of the trend and to the kind of decline in military efficiency which set in after the Napolenonic wars.

SOVIET MILITARY ORGANIZATION

VII: Structure of the High Command*

The Soviet Union considers the maintenance of large armed forces essential to the fulfillment of its policies. The Soviet leaders clearly recognize, however, the danger inherent to themselves in an overly powerful military caste such as that developed by the German Reich in the last century. Thus, while Soviet armed forces constitute the largest standing army in the world today and its members enjoy great prestige among their fellow citizens, the government provides for absolute control over both the officer corps and the troops by retaining the command function within its own hands.

Control of all military forces in the Soviet Union is vested constitutionally in the Supreme Soviet and its Presidium and is excercised under these bodies by the Council of Ministers. (See organization chart). In 1946, by decree of the Presidium of the Supreme Soviet, the armed forces were unified through the creation of a Ministry of Armed Forces. Since it is predominantly a land power, the Soviet Union was able to impose a form of unification by submerging its air and naval forces in the new Ministry. This Ministry, while essentially an Army Ministry, included the semi-autonomous but subordinate air and naval elements. The High Command and its General Staff controlled the ground forces more directly than the naval and air elements which were considered of secondary importance. By 1950, however, a change in Soviet organizational concepts had occurred and the Ministry of Armed Forces was abolished. In February of that year—almost four years to the day from the unification of 1946—the Supreme Soviet announced the formation of separate War and Naval Ministries.

Thus after four years of trial the Soviet Union discarded unification and returned to an organization which closely parallels that of World War II. However, the formal redesignation of separate War and Naval Ministries probably represents a relatively minor command change since the Navy had considerable autonomy under the pre-existing Ministry of Armed Forces. The various air forces, except the

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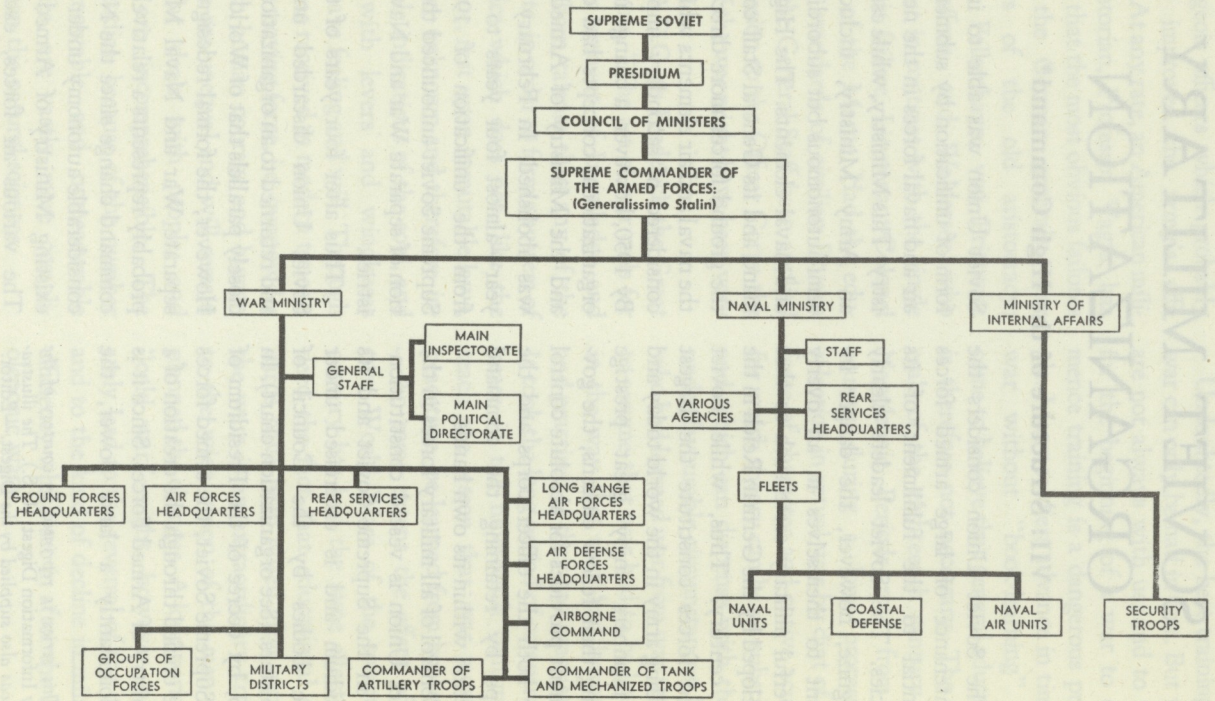
ORGANIZATION OF THE SOVIET HIGH COMMAND



naval air forces, still remain under the War Ministry. As this change illustrates, it is apparent that the Soviets have not yet settled on a final structure for the organization of the High Command. The creation of a separate Naval ministry probably reflects a determination to place more emphasis on naval development. On the other hand, purely administrative difficulties may be the basic explanation since control of the far-flung sea frontiers of the Soviet Union is not entirely practical under the military district system. The High Command structure as it existed from 1946 to 1950 nevertheless still holds for the greater proportion of Soviet armed strength—the ground and air forces. This structure is probably duplicated (with appropriate changes) in the newly established Naval Ministry.

The supreme command of the Soviet military forces is vested in the *de facto* and *de jure* chief of state, Generalissimo Joseph Stalin. During World War II Stalin himself, assisted by a supreme headquarters called the STAVKA, actually assumed operational direction of the military effort. With the end of the war, however, the day-to-day administration of the Soviet military forces—with the exception of the security forces which are controlled by MVD, the Ministry of Internal Affairs, devolved upon the constitutionally established Ministry of Armed Forces. This agency consisted of a Minister, a First Deputy Minister and five principal assistants including the respective commanders of the services and the Chief of the Armed Forces General Staff. With the organization of a separate Naval Ministry in 1950, one of the principal assistants, the Deputy Minister for Naval Forces, became the Naval Minister.

The War Minister — and the Naval Minister also — receives his directives from the Politburo through the Presidium and the Council of Ministers. He in turn issues orders on operational matters directly to the field forces; that is, to the military districts and groups of forces (or fleets, in the case of the Naval Minister). Actually, a certain amount of autonomy obtains in the case of the air elements and certain other commands but the ground force troops and the fleets are in almost all cases operationally controlled by the respective Ministers.

The War Ministry is provided with a General Staff which is somewhat comparable to the United States Joint Staff—less the naval representation. This staff, however, is perhaps more nearly similar in function to the historical German General Staff, for while there is no permanently assigned General Staff Corps as such, the staff is charged with the preparation of detailed plans and operations orders implementing the directives laid down

by the Minister.

The General Staff of the War Ministry is divided functionally into a number of agencies not all of which correspond to general staff divisions in the United States sense. At this level the staff contains an operations directorate similar in organization to the United States Army General Staff G3 Division; an intelligence directorate, similar to the G2 Division; and an organization and mobilization directorate roughly similar to the former Organization and Training Division of the United States Army General Staff. It also contains a topographic directorate and a signal communications directorate both of which are holdovers from Tsarist times, and a historical division. The ground and air forces as well as the rear services also are represented.

At the War Ministry General Staff level there are two additional agencies—the Main Inspectorate and the Main Political Directorate. The Inspectorate is an active and powerful agency charged with keeping the Minister informed on the state of readiness and combat efficiency of the field forces. The Main Political Directorate maintains separate channels of communication to its representatives at all levels down to battalions. It is the Party's and the Minister's instrument for insuring that the armed forces adhere to the Party line and that Party doctrine is disseminated to all ranks.

These units—the Ministry, the General Staff, the Inspectorate and the Political Directorate—comprise the control and strategic planning echelon of the Soviet ground and air forces. It should be noted that the Soviet Ministry and General Staff have far more detailed operational control over the field forces than do the United States Joint Chiefs of Staff, Joint Staff and Secretariat. Soviet air and ground forces are entirely and directly subordinate to this echelon just as the fleets are directly subordinate to the Naval Staff and Ministry.

The several headquarters of the arms and services subordinate to the General Staff level are chiefly staff administrative agencies. They include Ground Forces Headquarters, Rear Services Headquarters, Military Air Force Headquarters, Long-Range Air Force Headquarters, Air Defence Headquarters and a number of independent administrative agencies. In addition there may be technical or logistical headquarters at the army-air force level concerned with those technical functions which pertain to both services.

Generally speaking, the Soviet armed forces have the tendency to solve organizational problems by further departmentalization. For example, while the principal services basically have only technical training and administrative functions, each of the headquarters has its own staff organ-

U.S. Army Photograph

Generalissimo Stalin as he appeared at the Yalta Conference in 1945.

ization, including an Inspectorate, the ever-present Political Directorate and other units appropriate to the service. Certain ground force troops—especially artillery, tank and mechanized troops—are under a separate headquarters for training control. These headquarters are also responsible for their own technical supplies.

The second group of sections under Ground Forces Headquarters is composed of the various directorates concerned with day-to-day administrative operations and the directorate of military schools. These two groups of units in many respects resemble the organization of the Special Staff sections of the United States Army General Staff of pre-World War II days. But insofar as their function and authority are concerned, they are chiefly responsible for training and are possibly more analogous in this respect to the United States Army Field Forces staff today.

Even though there is some representation of the Rear Services in the planning echelon, there apparently exists no logistics division as such. The Soviet Government has adopted

the service command principle which General Eisenhower has said the United States would undoubtedly require in war but probably could not afford in peace. This organization in the Soviet War and Naval Ministries is really not a command as such but a vast number of service and logistics agencies co-ordinated by a Chief of Rear Services. They may be divided by type into transport, supply, and special agencies such as medical, veterinary and finance units.

The Rear Services organization provides nearly all of the logistic needs of the armed forces with the exception of certain highly technical equipment for which the services are charged with their own procurement.

The Soviet air elements differ widely from the current United States air organization. At present there are three closely related but operationally and jurisdictionally separate air organizations in the War Ministry. These are the Military Air Force, the Long-Range Air Force and the fighter elements of the Air Defence Forces. The Military Air Force is by far the largest of these air units and is probably charged with most of the technical procurement for all the air elements. On the other hand, it has the most limited autonomy operationally since the tactical air units of this headquarters are very frequently subordinated to army group commanders in the field and in some instances to military district commanders. The command of long-range bombing units in the field, however, probably extends from the War Ministry through the Long-Range Air Force Headquarters directly to the troops.

Air Defence Headquarters controls the defence of Soviet national territory against air attack and is composed of both air and ground units.

The Naval Air Force fighter units are subordinate to the Naval Ministry through the various fleet headquarters.

This, then, is the Soviet High Command. Since the necessity for compromise does not arise in the Soviet system of government, the Military High Command probably represents a nearly ideal organization from the Soviet point of view. To the extent that it provides unity of command, it is probably effective. Even the creation of a separate Naval Ministry should not disturb command unity in the USSR where all the armed forces are ultimately controlled by the Politburo through the Party machinery.

There appear to be, however, several characteristic weaknesses in the overall staff organization. The extensive departmentalization which in the case of such units as the Air Defence Headquarters and the Long-Range Air Force may be desirable, can greatly magnify the problems of internal communications, co-ordination and administrative control—as indeed

it may in any staff organization. From the United States point of view, the Soviet staff organization would seem to be a very unwieldy structure with widely overlapping functions and responsibilities.

Since the Soviet High Command is composed largely of ground force personnel whose training and background have been derived almost exclusively from ground operations, it is likely that the current combined organization in the War Ministry is unbalanced in terms of joint operations. This type of operation, it is true, undoubtedly has received emphasis in Soviet planning and training but the ground force tradition will be difficult to temper.

Because of the Party's determination to retain absolute control over the armed forces, the Ministers have frequently been selected more on the basis of party loyalty than for their professional abilities as staff officers. However, during World War II many politically unimpeachable officers gained considerable staff and command experience with the result that today senior commanders, and the Ministers of War and Navy in particular, are much more able and are better qualified than their predecessors. On the other hand, the jealous political control which is an integral element of the High Command imposes a feeling of personal insecurity in all ranks and limits the willingness of commanders to assume independent responsibility.

(This article concludes the series on "The Soviet Military Organization."—Editor).

New Radio Sets

A new series of radio sets is being manufactured for the [U.S.] Army . . . Designed for use by the Army Signal Corps and now in mass production, the new units can be combined to form as many as 30 different radio sets. With a range of approximately 15 miles for each set, two sets can be lined together for automatic retransmission of voice messages over longer distances. This automatic relay, it is pointed out, will more than cut in half the time required to transmit messages under combat conditions over relatively long distances.

Designed primarily for vehicular use, the new radio sets may be modified readily with a field set for operation on the ground. They are man-transportable.—*Army-Navy-Air Force Journal (U.S.).*

THERE'S DANGER IN DAMASCUS

By
MAJOR J. W. HOULDEN, LIGHT INFANTRY, WINNIPEG*

Look at the next Damascus steel shotgun you see hanging over a fireplace or in a collection of old guns. Admire the beauty of its lace-like patterns cut on the shiny, steel barrel, but don't try to shoot it. It might be fatal.

The attractive appearance of the Damascus shotgun is too often the cause of misplaced confidence, although it was once a useful and popular hunting weapon. Damascus metal first came to us from the early sword makers of Damascus in Eastern Europe. Growing in popularity, it was almost universally adopted for shotgun barrel metal throughout continental Europe in the latter part of the 19th century.

If the above statements were purely historical there would be no further cause for concern. Unfortunately, a considerable number of these old shotguns have survived the march of time and are being used today by our present generation of sportsmen. If shot shells were still made of the same old black powder, soft shot and corrosive primer of fifty years ago, we would have no problem. But they, like almost everything else, have been improved, and therein lies the crux of the problem. In short, the modern shotgun shell is too powerful for these old shotgun barrels.

Sportsmen frequently ask the reason why. To explain, a series of photographs are shown on these pages which, as far as can be ascertained, are the last authentic photographs of the various stages of construction of a Damascus steel shotgun barrel. These photographs were obtained through the courtesy of Sir Gerald Burrard, one of Great Britain's most noted authorities on shotguns and shot shells.

The first gun barrels were rough, crude affairs made of cast iron or brass. Then came a built-up barrel forged from small strips or plates of iron welded into short cylinders. The cylinders were in turn welded into a barrel of the required length.

Barrels made by twisting and welding long strips of metal around a man-

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drel or rod to form a tube gradually replaced the older type. The wrapping gave a "twist" appearance to the metal. Some of the barrel tubes were twisted even further after the welding was completed. Such twisting was thought to impart added strength to the metal.

The metal-working industry firmly adopted the twisting theory and began to evolve the type of barrel which is known as a Damascus steel barrel. This barrel was made by taking alternate strips of iron and steel. Each strip was twisted from end to end (Fig. 1), then heated and forged into a solid bar (Fig. 2), consisting of two iron and one steel strips. By varying the number of strips and the amount of twist, the design in the finished barrel could be varied to suit the gunsmith's artistic ideas.

The twisted and forged bar was next coiled and welded around a mandrel or rod corresponding to the diameter of the gun bore (Fig. 3). This resulted in a tube (Fig. 4) or two tubes for a double barrel. The gunsmith then welded additional metal onto the breech for lugs and locks. A finished pair of barrels can be seen in Fig. 5. Trade marks such as the two bright spots of white metal seen on the flat portion in Fig. 5—the mark of a well known English gunsmith—were often put in. Lastly, before being assembled, the barrel was smoothed down and finished to remove all hammer marks and irregularities from the welding.

The Damascus barrel has several weak points. The metal itself consists of a mixture of part steel and part iron which has been hand-welded together. In the twisting and forging, a considerable amount of scale and slag is incorporated into the body of the metal. These impurities weaken the iron, often to the point of danger.

To investigate the metal more minutely, sections of a Damascus barrel have been cut out, polished, etched and placed under a microscope, magnified 50 times and photographed. Figure 6 is an enlarged view of a section of barrel metal. The inclusions of slag and scale can be seen clearly as a series of black dots in sloping rows across the face of the metal. In a Damascus barrel of poorer quality, the imperfections are larger and more scattered. Cheap barrels were often made from scraps of metal such as old horseshoes and nails.

To add to this dangerous condition of imperfections in the body of the metal, another serious defect is caused by uneven welding or over-heating of the metal during welding. Overheating makes the iron coarse grained and soft, changing the characteristics of the steel to weaken it below its original strength.

One fallacy about these guns has, unfortunately, been accepted for many years. Damascus barrels were said to be more elastic, with more "give"

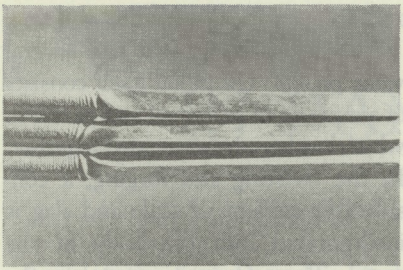

FIG. 1: Damascus steel barrels were made with alternate strips of iron and steel. Each strip, above was twisted first from end to end.

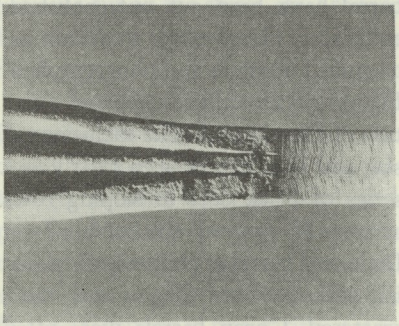

FIG. 2: Twisted strips were heated and forged into a solid bar of one steel and two iron strips. The design was varied by changing the twist and strips.

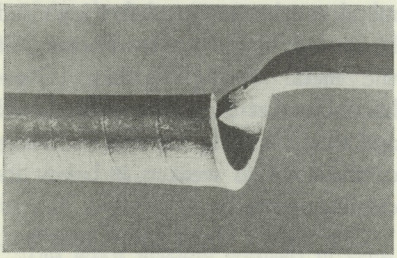

FIG. 3: The twisted and forged bar was next coiled and welded around a rod or mandrel corresponding to the diameter of the gun bore.

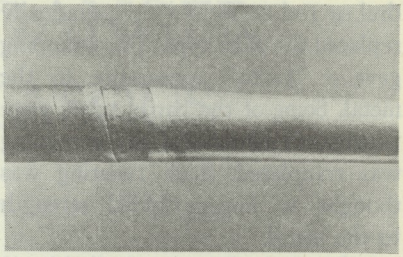

FIG. 4: When coiling and welding were completed, above, one finished tube—two for a double-barrel gun—resulted. Note the pattern.

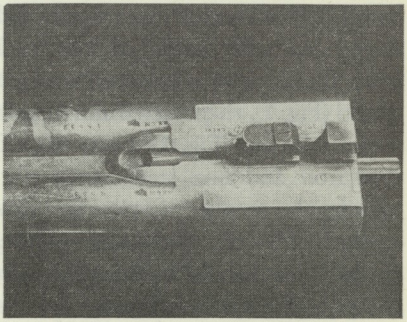

FIG. 5: The gunsmith next welded additional metal onto the breech for lugs and locks.

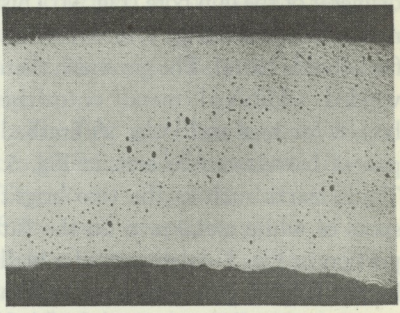

FIG. 6: Dots in this photograph of Damascus metal enlarged 50 times show damaging scale and slag incorporated in the making.

when exposed to a pressure that would burst steel. But the exact opposite is the truth. The Damascus barrel due to its soft metal and low elastic limit would bulge under even a moderate strain. Steel, on the other hand, has a very high elastic limit. If two barrels, one of Damascus steel and one of plain steel, were subjected to gradually increasing but identical pressures, the Damascus barrel would bulge first and remain bulged. A steel barrel would stand considerably more pressure without signs of permanent bulging or rupture.

Beauty is no yardstick to safety in shotguns, for to add to the inherent weaknesses of Damascus barrels two other "additions" were made to the hunter's kit at the turn of this century which helped spell doom to this type of gun. First, came the invention of smokeless powder. Up to this time, ordinary black powder was the only type used. It gave breech pressures around 6,000 pounds per square inch in shot shells. It is estimated that the tensile strength of the iron in these old barrels would run from 42,000 to 48,000 pounds per square inch. To ease the situation the peak rise in pressure when a black powder shell was fired occurred near the breech where the metal was thickest. As the shot progressed along the barrel the pressure dropped rapidly and the barrels could be very thin near the muzzle and still be safe.

Today, we have smokeless powder with minimum pressures around 9,000 pounds per square inch and the maximum going as high as 12,500 pounds in heavy 12-gauge duck loads. Gun metal must be at least twice as strong for today's smokeless loads. Modern powders are also progressive burning and there is still considerable pressure inside the barrel at 12 to 15 inches from the breech. At this point the old Damascus barrels are paper-thin and here they usually burst open. To make the situation worse, most of these old guns have 2½-inch or 2⅝-inch chambers, whereas most modern shot shells are 2¾ inches long. This adds dangerous extra pressure on an already aggravated situation, as the number of accidents testify.

Time and rust have also played their part. A large percentage of the existing antique guns are badly pitted. Some even have pin-holes through the barrel, but are still being used.

Damascus steel barrels signed their own death knell as a product when gunsmiths discovered the excellent shooting qualities created by chock-boring the muzzle of the barrel. As their merits became better known, steel barrels gradually supplanted those of Damascus and laminated steels, until today all the best guns are fitted with steel barrels. These are made lighter than Damascus, yet offer greater resistance to the heavier pressures exerted by modern powder.

They do not bend or dent so easily as Damascus barrels, and trade in the latter has dwindled away until it is now exceedingly difficult to procure reliable Damascus barrels.

Damascus guns were made at a time in our history when individual craftsmanship was at its peak. Some of them are intricately forged and engraved with gold and silver inlays. This superb workmanship was costly then, as it is today, and the guns have been handed down from father to son as family heirlooms. Many are unearthed by the present generation in attics and second-hand shops. Gun enthusiasts are intrigued by the beauty and feel or balance of these old guns and can't resist giving them a try, using modern high-pressure loads.

The result of this curiosity is sometimes unexpected, to say the least. Constant warnings have been given, yet the public, and Damascus gun owners in particular, are hard to convince. After each hunting season, reports of blown up Damascus shotguns trickle in from all parts of the country.

Many owners of Damascus guns grew up with them and like the "feel" or "fit" of the gun. They often ask for a new set of all-steel barrels, but are stumped by the cost. A new barrel or barrels would run anywhere from $100 to more than $200, a price higher than that of a brand new modern shotgun. And even if new barrels were fitted, the frame and action would still not be made of modern forged alloy steel. It would resemble a modern car body on a model T Ford chassis driven on high octane gasoline.

The best place for these old guns is hanging over the fireplace or in the trophy cabinet with the firing pin removed. Don't sell your Damascus gun to some unsuspecting customer without warning. He may end up in a fatal accident. Better still, you should destroy the gun completely so that no one will be tempted to fire it now or in the future. Throw it into a deep river or lake and time will take care of the rest. And warn any owners whom you know about the dangers of Damascus, laminated, or twist-steel barrelled shotguns.

For extra measure you can also point out to your hunting friends the notice printed on the side of a box of shotgun shells of any make, either in Canada or the United States. The warning will read: "CAUTION—Do not use these shells in guns having DAMASCUS or other twist steel barrels."

The popularity of Damascus steel was so great in the late 1800's that a considerable number of guns with all steel barrels were etched to resemble Damascus steel. If you are not sure of your gun, ask a reliable gunsmith or your local ammunition company representative. He will be glad to help prevent these accidents.

THE GERMAN PLANS FOR ATTACKING SWITZERLAND

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From the reports of the German General Staff, 1939-1945, it is evident that Switzerland passed through several dangerous periods during World War II. One of the most critical of these periods was in the spring of 1943 when German reverses in North Africa led to the evacuation of that theatre of operations and north-south communications became vital to the Germans.

The chief concern of the German General Staff at that time was for units in Italy, since the German intelligence service already had evidence that Italy might pull out of the war. Hence, the possibility of Operation *Switzerland* was earnestly considered. The report of the Chief of the General Staff for that period indicates the importance of the north-south communications routes through the St. Gotthard and the Simplon Tunnels, as well as the desirability of bringing the Alps-Jura Massif into the inner defence of "Fortress Europe". [See map on page 61].

On 20 March 1943, Swiss intelligence sources discovered a "Kommando Schweiz", under the command of Colonel General Dietl, was standing by in the Munich area, and that paratroop units were ready to force their way into the Swiss Redoubt. German SS groups were in favor of making the attack, but German economic experts, the *Wehrmacht* generals, and the Security Service were opposed to it. On 27 March 1943 it was learned that the plan had been abandoned.

The information possessed by the Swiss Intelligence Service was confirmed at the end of the war. That a German plan of attack on Switzerland existed is now revealed, among other sources, in General B. von Lossberg's book, *In the Staff of the Wehrmacht Command.* Von Lossberg entered the Operations Section of the *Wehrmacht* Command staff under Colonel General Jodl on 1 April 1939, and remained in that important post until the end of the war. In his book, General von Lossberg devotes a chapter to the operational plans against Switzerland. The following is

quoted from this chapter:

"During the first part of the war, a turning of the Maginot Line through Switzerland was not seriously considered. Only small operational significance was attached to the Swiss area, in comparison with Holland and Belgium. The mountainous character of the country, moreover, rendered it unfit for the assembly and use of attacking forces against the southern French flank. Troop movements in the vicinity of the Swiss frontier before the western offensive began served only to deceive the French General Staff. Switzerland did not assume any greater importance until Italy had entered the war. Communications between the Axis Powers would have been considerably better if the direct routes through Switzerland had been available for military movements and the transportation of supplies. Hitler was irritated, also, when fine Swiss mechanical products were sent to England instead of to Germany. The fact that Switzerland was the focal centre of international espionage was also of great importance to Germany.

"It was under these circumstances, after the victory in the West (though the precise date has escaped my memory), that Jodl ordered a small, independent staff group to determine how, if necessary, an entry could be made into Switzerland. There was no doubt but that this action resulted from one of Hitler's orders. We then set ourselves to the task of hurriedly working out the problem for Jodl.

"This study was based on the geographical fact that only a small portion of Switzerland, the so-called *Mittelland* lying between the Jura and the Alps is to any degree accessible from the military point of view. In addition, the frontier cities of Basel and Geneva, and all the other large localities, are situated there. The watch, machine, and textile industries are also located in this region, as well as the extensive aluminum industry. The most important communication routes lead from the Rhine and Rhone Valleys into the *Mittelland* and then over the Alpine passes into Italy. These routes are extremely vulnerable, due to numerous bridges and long tunnels. Many serious demolitions might be expected in any invasion.

"In the Swiss national defence, we counted on some 50,000 militiamen being under arms, besides a few reserve classes. The organization of the army corresponded essentially to the natural defence missions; its armament was regarded as modern. The few fortifications were situated at the narrow passes. In view of the troops' familiarity with the mountains and their love of freedom, stubborn resistance locally and probably subsequent guerrilla warfare were expected.

"The rough draft of the operation was shaped in conformity with routes

and terrain. Light motorized forces could push across the Rhine, southwest of the Boden See, and mountain troops would attack on both sides of Basel toward the south. Smaller forces would possibly move out of the Rhone Valley and attack the area north of Lake Geneva. Following such a plan, the seizure of the *Mittelland* could offer no great difficulties. But of what use would the *Mittelland* be if the important communications routes to Italy were damaged by extensive demolitions? No participation of Italian troops was considered.

"The study was turned over to Jodl, and it disappeared—probably after being shown to Hitler—in Jodl's desk. In any event, the Swiss problem never became significant. It was quickly forced into the background by the eastern [Russian] problem."

General Böhme's Plan

It is now known that the SS did not give up the plan for an attack on Switzerland when the *Wehrmacht* High Command decided against it. The group around Himmler continued to hope for an opportunity to pay Switzerland back for its anti-Nazi attitude. Colonel Böhme, former chief of the Austrian Intelligence Service, who became a general and the commander of a mountain corps in the German Army, was given the task of preparing an operational plan against Switzerland. Because of his activities with the Austrian Intelligence Service, Böhme was fairly well acquainted with conditions in Switzerland. Late in 1943, he worked out a thoroughgoing "memoir relative to the defence situation of Switzerland from the special viewpoint of German armed intervention." The remainder of this discussion is based on General Böhme's study.

After Austria was annexed by Germany, the Swiss frontier opposite Germany was considerably lengthened. Switzerland reacted very quickly to this change in her situation by taking defence measures along the Liechtenstein and Vorarberg frontiers.

Due to the tension in 1938-1939, great attention was given to military matters in Switzerland. Yet Switzerland hoped that in the event of a conflict between France and Germany, she might again remain neutral as she did in 1914-1918.

In Swiss defence circles, there was sufficient pro-German sentiment to guarantee neutrality, even in the face of French overtures. This situation provided grounds for a non-hostile attitude toward the German Army.

Therefore, at the beginning of the war in 1939, the Germans were able to keep only small forces on the upper Rhine between Lörrach and Karlsruhe, and to disregard any concentration of reserves in Baden to repulse French forces which might make an eventual march through northwest Switzerland. As is known, trade between

Switzerland and Germany continued.

The German break-through in May 1940 through Holland, Belgium, and Luxemburg aroused fears in Switzerland that the Germans planned a similar attack through Switzerland to outflank the French Rhine front. German troop movements justified this view, which was what the Germans desired in order to influence the French to increase the security of their eastern frontier. Another complete mobilization, similar to that of 1939, was carried out in Switzerland. This Swiss mobilization was considerably more efficient than that of the autumn of 1939.

During the campaign in the west, French forces, some of them of considerable strength, went over to Swiss territory. They were disarmed and interned by the Swiss.

The political-military situation resulting from Italy becoming a German ally, and Germany's victory in the west, had a direct and immediate effect on Switzerland.

Deeply impressed by the efficiency of the German Army, the Swiss attempted to adapt its army to the new conditions. In carrying out effective military plans, Switzerland was faced with two difficulties:

1. The tempo of Swiss military preparations could not be so abrupt that they would alarm Germany.

2. The Swiss requirements for matériel were such that it could be brought into the country only with German consent.

Swiss Strategy

As a strategic solution, the idea of the Swiss "National Redoubt" was developed.

Although it would have been expected that the new political-military situation in Europe would lead to a complete change in Swiss policies, reports showed only too plainly that a certain stiffening of attitude had occurred in domestic policy. The visible result was the Redoubt. The Swiss considered it better to fight than to be dominated by Germany in the new Europe.

Germany's attack on Russia had little effect on public sentiment in Switzerland, in spite of the fact that Switzerland did not maintain diplomatic relations with the Soviet Union. Switzerland made no direct contribution to the campaign, with the exception of a Red Cross mission. A movement to recruit volunteers to fight for Germany achieved little success.

The political-military situation in 1941 forced Switzerland to recognize that its continuation as a state depended on the desires of Germany. The occupation of Vichy France in 1942 also showed that Switzerland was under German pressure from all sides.

It became more and more apparent,

however, that Switzerland was attempting to reduce the grip of German influence. Foodstuffs and transportation were shifted to home production as far as possible.

After the landing of the Allies in North Africa and the German reverses in Russia, a change of attitude occurred in Switzerland, despite the fact that there still was German influence in official circles.

On the other hand, it must be emphasized that the purely commercial relationships between Switzerland and Germany continued undisturbed. Also, diplomatic relationships were satisfactory.

After the fighting in Sicily and the capitulation of Italy, the plans of the Allies were clear. After September 1943, however, the German Army had complete control of the northern Italian area, and Switzerland was thus surrounded on all sides by German influence. This was an extremely difficult situation from the Swiss standpoint, but it would have been erroneous if the Germans had assumed that Switzerland had any intention of revising her military policy in Germany's favour at that time.

As a result of war developments, the importance of the Swiss industrial area increased considerably from the standpoint of the German military effort. As the importance of the northern Italian armament industry declined, the transportation of coal to Italy was no longer as important as in the past; therefore, the importance of the Swiss rail lines was somewhat reduced.

Switzerland's position was well known to the Allies. There was no lack of effort to get Switzerland to break the agreements she had entered into with Germany. Although a part of her population would have approved this step, Switzerland did not make an industrial break with Germany.

Purely from the standpoint of Swiss economy, the break could have been considered. Switzerland's supplies would have lasted, with extreme economy, for at least a year if industrial production had been strongly curtailed, all resources had been used, and the slaughtering of cattle had been allowed. During this year, in which Switzerland would have been forced to live without imports, a decision could have been reached in the war by an Allied landing in Western Europe or the Balkans.

If Switzerland had ceased cooperating with Germany, how could she have been quickly subjugated in a military campaign?

The answer depends mainly on the estimate of respective strengths, and in this estimate the complete encirclement of Switzerland at that time was a factor in favour of Germany.

Swiss Strength

The Swiss Army possesses a great

tradition. Its defence system raises it above the level of many others. Intensive employment is made of the nation's natural defences. Though the strength of the army was 470,000 men in 1939 (inclusive of all auxiliary services), it rose to around 550,000 by the end of 1943.

Also the number of large units increased so that there were 4 corps (altogether 10 to 12 divisions), 3 or 4 light brigades, 4 mountain brigades, frontier guards, and fortress troops.

These forces seemed considerable, but they were not comparable in fighting power to the German forces.

Swiss equipment marked the army as definitely an infantry force. The national armament industry was able to manufacture hand weapons, machine guns of up to 34-mm, cannon up to 105-mm, 120-mm ammunition, and motor vehicles. Switzerland had only a small number of airplanes—about 250—mostly of German and French make. She had no bombers.

The fortified zones in the country's interior had been increased, and the frontier fortifications started to a considerable degree.

In addition to the firearms in the possession of all men, the weapons stored in the depots were sufficient to equip additional units.

Many in Germany claimed that the Swiss Army was not very strong. As grounds for their contentions, they claimed that:

1. Neither the Swiss High Command nor the forces of Switzerland had had any experience in modern warfare. Manoeuvre reports showed the clumsiness of the command and the unmilitary conduct of the men due to lack of training.

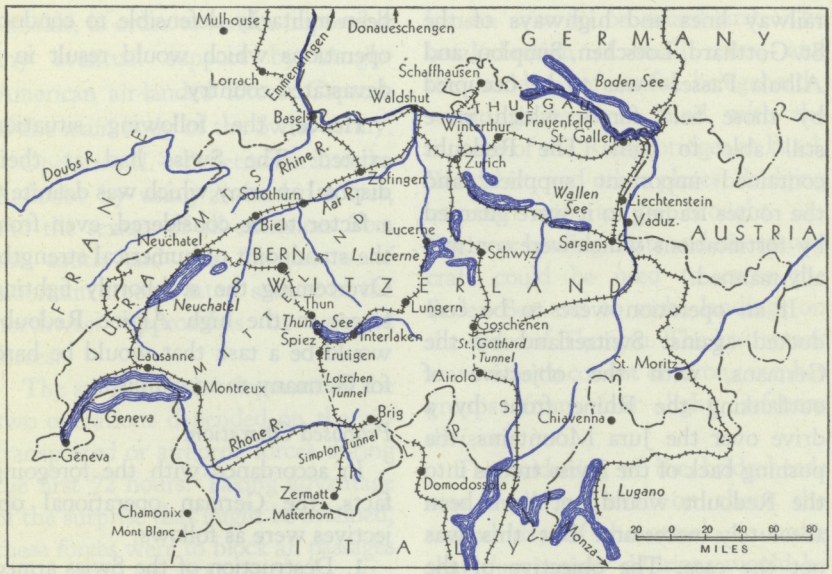
2. Armament was inadequate in many respects. Anti-tank defence was not what it should have been, due to the small calibre and insufficient number of weapons. The anti-aircraft defence was poor, due to the same reasons.

3. Since there was practically no air force, the Swiss Army would be without even rudimentary support, observation, or reconnaissance. In addition, the airfields would not permit the operation of any large Allied formations.

As one large territorial division along the Swiss border area would have to be a battlefield as well as a supply and industrial base, it thus presented an inadequate defence in depth. As a consequence, every battle would be followed by devastating results. Serious repercussions on the fighting Swiss soldier would be inevitable.

These arguments had a certain degree of truth, but it was wrong to underrate the worth of the Swiss Army solely on this basis.

The Swiss soldier's will to fight is very strong and must be compared to that of the Finns. A people which pro-



duce good athletes has always produced good soldiers. The love of the Swiss for their native land is of the highest order, and their training in marksmanship, in spite of the militia system, is better, for example, than in the former Austrian National Army with its 18 months of service.

Swiss weaknesses, from the technical and training standpoint, as well as a certain degree of inferiority on the part of the lower grades of commanders, would be neutralized to a certain extent by the frontier fortifications. Since 1938, the Swiss had been improving their fortified zones. Even though the Germans had developed effective attack methods which had overcome heavier obstacles than the Swiss frontier fortifications, these fortifications still represented an obstacle. In addition, on the basis of German information, Switzerland would not fail to impede any advance by means of demolitions in her frontier areas. But in spite of all planning with respect to the frontier fortifications, it must not be forgotten that a great change had occurred in views relative to the Swiss national defence as a whole.

Prior to 1939, the Swiss would have made their main defence along their frontiers. In 1943, however, the idea of the National Redoubt was in the foreground.

This Redoubt—essentially, the Rhone Valley from St. Maurice upward; the upper Rhine; and the

railway lines and highways of the St. Gotthard, Lotschen, Simplon, and Albula Passes—was to be occupied by those field forces which were still able to fight. The Redoubt contained important supplies, and the routes leading to it were guarded by fortifications which were continually manned.

If an operation were to be conducted against Switzerland by the Germans, with the objective of outflanking the Rhine front by a drive over the Jura Mountains, the pushing back of the Swiss troops into the Redoubt would not have been absolutely necessary. But this was not the case. The objective of the German attack was, rather, to seize possession of the important north-south communications. Only the unqualified possession of these communications, or at least the two western ones, together with electric power plants, would have constituted a definite military victory over Switzerland.

There was also another and no less important matter to take into consideration. Only a half-way intact Swiss industry, a population which was not only able but willing to work, and undemolished power plants and railways would have constituted a prize sufficient to justify armed intervention in Switzerland. In the face of the strained condition of German supplies, it would not have been militarily defensible to conduct operations which would result in a devastated country.

Hence, the following situation existed: The Swiss had at their disposal an army which was definitely a factor to be considered, even from the standpoint of numerical strength. Overcoming the stubbornly fighting forces in the high Alpine Redoubt would be a task that would be hard for Germany to accomplish.

Proposed Operation

In accordance with the foregoing facts, the German operational objectives were as follows:

1. Destruction of the Swiss armed forces and the prevention of their direct support by the Allies.

2. Rapid seizure of the most important communications routes and restoration of the Swiss armament industry.

The attack would be greatly aided by the fact that all sectors of the Swiss frontier could be approached and forces assembled without any fear of Swiss counteraction on German soil.

The plan would have to be carried out in two operations which, initially, would be conducted independently of each other.

Operation I.—The seizure of the central mountain zone, with the main effort in the north. Quickest possible seizure of the more usable Swiss

airfields, in order to render impossible any eventual support by Anglo-American air-landed forces. Capture of the main body of the Swiss Army.

Operation II.—Penetration into the Redoubt by using air-landed forces, and the seizure of all entrances from the south and east by means of mountain troops; later, seizure of the northwest approaches by ground forces.

The successful development of the two operations depended on the air-transported or airborne forces during the first 72 hours. Taking advantage of the surprise that might be attained, these forces were to block all passages leading from the *Mittelland* into the Redoubt, in order to disrupt the plans of the Swiss High Command.

The mission of the German Air Force was to provide a defence against Allied bombing attacks on German assembly positions and supply lines.

Operation I

Since Switzerland attached great importance to the frontier fortifications which were strongest on the Rhine and in the Schaffhausen area, these fortifications were to be immediately destroyed. This was to be done by rocket mortar units and army artillery. After successfully crossing the Rhine, these forces would be immediately available for other operations.

The natural bridgehead at Schaffhausen was to be seized first. The break-through of small zones, and the build-up of useful bridgeheads, would go hand in hand with the capture of the Rhine bridges at Basel, Waldshut, and other places. Bridging material was to be brought up. Engineer landing boats and emergency craft could be used to cross the Boden See and to make landings on the shore of Thurgau. The first attack wave was to consist of strong combat groups from four light infantry divisions.

The widening of the bridgeheads was to be achieved on about the second day of the attack, in order that *three panzer* divisions would be able to attack through the infantry units. Previously employed light infantry divisions were to regroup for new employment.

An armoured division was to push out in the general direction of Solothurn.

One *panzer* division from Waldshut was to advance into the Aar Valley; from there it was to fan out in the direction of Zofingen and Zurich.

One *panzer* division was to attack east of Schaffhausen, through Winterthur.

After reaching the line: Biel—Bern—Lucerne—Zurich, the mass of the armoured corps would be ready for other use on about the fifth day of the attack.

The four light infantry divisions

following the armoured units would continue the drive in the direction followed by the armoured forces in their attack. The assignment of motor transport regiments to these light infantry divisions would be advisable in order that they might carry out long marches with the utmost speed. All Swiss formations still in existence were to be quickly crushed in order to prevent the subsequent formation of partisan forces.

Small German units which would conceal their strength with the help of surprise fire were to continue to hold the passes into France over the Jura Mountains. The fortifications there, as far as they still were held after the collapse of the Rhine front, were to be captured by the light infantry divisions, using small units.

The light infantry divisions were to seize the entrances to the Redoubt in order to relieve the *Luftwaffe* forces fighting there.

Operation II

Seizure of Geneva and the landing of a division on the neighbourhood of Lausanne was to occur on the first day of the attack. A column was to advance toward Montreux to the entrance of the Redoubt, while another column east of Neuenburger Lake would attempt to join the light infantry divisions attacking from the north.

Air force activity in this operational area would be limited, at first, to:

1. Destruction of Swiss aircraft and the gaining of air superiority.
2. Dive bombing attacks on a few of the larger fortified works in the frontier zone; attacks on marching columns and troop concentrations.
3. Providing fighter protection for the marching German columns and assembly positions; anti-aircraft protection for the Rhine bridges.
4. Seizure of the Swiss airfields and emergency landing fields, and their restoration for German use.

The bombing of anything other than troops was unnecessary.

Operation II against the Redoubt was to be launched simultaneously with, but independently of, Operation I in the north.

On the morning of the first day of the attack, the *Luftwaffe* was to drop units of one paratroop division in Brig (Lotschen-Simplon), Göschenen-Airolo (St. Gottard), Lucerne-Schwyz, Spiez-Thuner See, Frutigen (Lotschen), Thun (Simmentalbahn), and on the airfields of the Redoubt.

Simultaneously with the landing or dropping of forces, an army of mountain forces, broken down into numerous combat groups with strong reserves, was to attack along the roads through the high Alpine frontier of Southern Switzerland. It was necessary to attack there as quickly as possible and in several places. In case progress was favourable, the reserves were to be committed re-

gardless of the situation of an adjoining unit. Under certain circumstances, the withdrawal of forces which had not succeeded in effecting any advance was conceivable, since a Swiss counter-attack, in view of the Swiss manner of fighting, was not to be expected.

The assignment of a few good mountain, reconnaissance, and fighter squadrons was necessary. An attack was to be conducted, not only from the Vaduz-Sargans region in the direction of Wallen See, beginning on the first day of fighting, but also up the Rhine. The *Luftwaffe* operating from Northen Italy was to supply the airlanded forces and provide protection for the valley barriers.

General Remarks

Artillery fire on villages, factories, and power plants was to be avoided. During the operations, collecting places for captured matériel and equipment (thorough disarmament was deemed necessary) and prison camps (only officers were to be deported) were to be organized. The technical supply installations and electric power plants were to be taken over by the German *Todt* Organization. German railway experts were to assume control over the Swiss railway network, though direct intervention was to be avoided. Industrial experts were to be given the mission of protecting the most important production installations. Swiss police were to continue functioning.

Troop Requirements

For conducting Operations I and II, the following German forces were considered to be necessary: to be assembled along the north frontier; 4 light infantry divisions organized into 2 corps, each with 1 truck transport regiment attached; and 3 armoured divisions under a corps staff. The two light infantry corps and the armoured corps were to constitute the Northern Army, reinforced by the following special forces: 2 artillery brigades, each artillery brigade being assigned to a light infantry corps; 1 rocket projector brigade; a high engineer officer with 6 assault boat companies; 6 bridge building battalions; and 2 engineer battalions of assault engineers.

In the communications zone, detrainment of these forces was to be in the Muhlhouse, Donaueschengen, and Emmendingen areas. Each light infantry division would require 40 trains, and each armoured division 78 transport trains. Thus, not counting special army troops, some 400 transport trains would be required. In addition, 200 transport trains for special troops would be needed. Consequently, for the entire Northern Army, 600 transport trains, together with trains for ammunition, motor

fuel, provisions, and hospital equipment, were needed. *Luftwaffe* forces required would be as follows: 1 combat group; 1 fighter or destroyer group; 1 reconnaissance group; 1 anti-aircraft artillery regiment; and 1 ground unit.

Supply dumps were to be located close to the Swiss frontier. Fifteen days' rations and ammunition (except for the special army troops) and 8 days' supply of fuel were to be provided.

Supply centres were to be close to the border. Swiss supplies to any substantial amount were not to be counted on, since Swiss army supplies were to be used in the prison camps. Any extensive interference with the Swiss civil food supply was not desired. On this account, some 30 days' rations for each light infantry division and 10 days' ration for each armoured division were to be provided. Similar figures were to be used for animal forage. The forage situation was extremely critical in Switzerland. Seizure of horses was to be contingent on the extent to which the country's agricultural status was to be preserved.

On the west (Jura) frontier, the following forces were to be employed: 1 infantry division, plus 1 artillery commander with 8 artillery battalions; and 1 signal communications regiment (motorized). Thirty transport trains were required and artillery was to be towed by motor vehicles. Ammunition supply for 15 days was to be provided.

On the southwest frontier, 1 reinforced light infantry division with 1 reconnaissance battalion (armoured), and 3 assault-boat companies were to be used. Fifty transport trains were required for this force.

Also, on the southern frontier, 1 mountain brigade (at that time stationed in Chamonix), 1 mountain corps of 2 divisions in the Mont-Blanc—Domodossola—Lake Lugano area, and 1 mountain division from Lake Lugano—Chiavenna were to be assembled. Altogether, these units would make up a mountain army to which 1 transport-truck regiment was to be assigned. Transportation requirements were some 240 trains exclusive of supplies or ammunition. Detrainment was to be made at stations close to the mountains.

One paratroop division with a transport wing, 1 fighter group, 1 pursuit group, 1 reconnaissance group, and 1 anti-aircraft artillery regiment were to be supplied by the air force.

On the east frontier in the Rhine Valley, 1 corps with 1 mountain division advancing up the Rhine, and 1 rifle brigade (Südliechtenstein-Wallen See) would be needed. About 70 transport trains would be required for this force.

The over-all requirements for the army—for at least 15 days' employ-

ment—were as follows: 4 light infantry divisions, 1 reinforced light infantry division, 1 light infantry brigade, 1 infantry division, 4 mountain divisions, and 1 mountain brigade. The *Luftwaffe* would require 1 paratroop division. One army group staff, 2 army staffs, and 4 corps staffs would be needed. For at least 5 days' employment, 3 armoured divisions and one armoured corps staff would be required. For at least 3 days' employment 2 artillery brigades, 1 rocket-projector brigade, and engineer troops must be provided. For the assembly of these forces, therefore, at least 850 transport trains—not counting supply trains—would be necessary.

In view of the situation on the other German fronts at that time, and the extremely difficult transportation conditions, this assembly and detrainment would have required at least 4 weeks. The mountain division had to be brought from the Norwegian area, which would require at least 8 weeks, not counting time for necessary refresher training.

The concentration of 3 armoured divisions and almost 12 other divisions and special forces seemed sufficient to crush any Swiss resistance. The three armoured divisions would soon be free for other uses. The use of mountain divisions was absolutely necessary.

The infantry divisions also had special equipment which permitted them to be used in mountains of medium altitude.

In order to simplify supply, command, and transportation, the number of battalions in the light infantry and mountain infantry regiments could be reduced to two.

German losses as high as 20 per cent. were to be expected.

Operations were to be conducted under an army group command stationed at Feldkirch.

The estimate of forces required and the operational plans were based on conditions found during the summer months, preferably the month of August.

Conclusions

The work of the German Army Staff and of the SS on an attack of Switzerland stopped in the planning stage. That such plans existed is proof of the importance attached to Switzerland by the Germans from the military and economic points of view.

From the two reports outlined here, many interesting facts may be learned, even though we are quite aware that we are not dealing with perfected operational plans, and that there are many other possibilities in planning an attack on Switzerland. It is, however, very instructive to read the opinion of the Swiss Army entertained by the Germans. Care must be taken, however, not to draw general con-

clusions from the two studies. It seems permissible, however, to call attention to the following points:

1. In the military and economic estimate of Switzerland, the significance of the *Mittelland* is outstanding. The estimate of the operational possibilities of an attack in this area is very favourable in view of the numerous communications. Swiss industry, in the main, is located in the *Mittelland*. This estimate should remain entirely valid for the future.

2. The importance attached to the north-south routes of communication is very striking. We find in it confirmation of the Swiss concept of the political-military significance of their country as the "turntable" of Europe. This significance may diminish in the age of long-range weapons and large air transports. As an intermediary, however, between Western Germany and Eastern France on the one hand, and Northern Italy on the other, Switzerland will always play an important political-military and strategic role in Central Europe.

3. The German estimate in both plans of the Swiss spirit of resistance is of special interest. The determined Swiss will to resist was evaluated as a decisive factor. This factor will certainly also be considered vitally important in any future plan of attack on Switzerland. It is, however, of importance to note that not only Swiss defence-mindedness but also spiritual defence-readiness are taken into consideration. Other nations will ascribe still greater weight to Swiss matériel preparedness in weighing their chances of success in any attack. As regards the latter, the mistaken idea still largely prevails that Switzerland shall again have months or years in which to bring her matériel preparedness up to the necessary level. The estimate made of Swiss anti-tank defences and air forces in the German plan should be a warning.

In 1943, the German attack plans remained unused, mainly because the Swiss Army represented considerable power of resistance. Too many German divisions would have been required to crush that resistance. This same factor must always be present in the Swiss national defences of the future. Every foreign general staff must be forced to count on using so many divisions to conquer Switzerland that Operation *Switzerland* would be considered too costly.

In order that the Swiss Army may again attain this deterrent value, considerably more must be done to increase its military fitness than is being done at present.

ARMY BENEVOLENT FUND

By
H. C. Chadderton, National Secretary, Army Benevolent Fund, Ottawa

The Sergeant Instructor was reviewing the theory of three-inch mortar ranging for the umpteenth time . . . but still Williams couldn't grasp it. To him, the whole session was a mixed-up jumble of elevations . . . brackets . . . traverses and a lot of other nice-sounding but meaningless terms. Ordinarily, this stuff was "duck soup" but Williams couldn't get his mind off the batch of letters in his tunic pocket.

His wife had been recuperating nicely when he left home. Then the bills had started to come in. The doctors wanted their money, the hospitals were pressing and the grocery bill which had gotten out of hand during his wife's sickness loomed over their heads like the sword of Damocles.

It goes without saying that he could not be expected to soldier with this very considerable weight of worries pressing on his mind. Shortly after the mortar training period, Williams paraded before his CO and with a minimum of time and in the strictest confidence arrangements were made for an application to be forwarded to the nearest Army Benevolent Fund Committee. The result—a trained investigator called upon Mrs. Williams. There was no embarrassment but rather a friendly, simple chat. An application was completed and an award of $300 went to clean up the bulk of the outstanding debts. Mrs. Williams was given some sound guidance as to a plan under which the balance of the indebtedness could be cleared off and to-day she is a happy and contented housewife . . . and Williams is soldiering once again.

This is just one example of the type of financial assistance which the ABF is rendering to veterans of the Second World War now serving in the Canadian Army. In effect, the ABF represents a form of "paid-up" insurance against unexpected contingency for every person eligible under its legislation. The general idea is that a maximum grant of $300 can be made available to any Second World War Army veteran or dependent who has encountered genuine financial distress by reason of one of these unexpected contingencies, that is to

say, fire, flood, accident or other unforeseen and unavoidable occurrence which has brought about a situation of distress.

Recently, the Army Benevolent Fund issued a policy bulletin indicating the types of assistance which can usually be made available to serving soldiers and their families. A brief resume of the five categories is included herewith:

Category "A"—Sickness and Accident: In effect, any family which encounters financial distress by reason of sickness or accident can qualify for financial assistance to pay medical or dental bills, burial costs, housekeeping services and other requirements of a medical nature.

Category "B"—Removal—Head of Household: The second category is an interesting one from the soldier's point of view. It works this way: If the soldier happens to be removed as head of his household, either permanently or for a long period, the Fund can supply the necessary money in connection with a plan to re-establish the wife and children. Here is an example of how this category can be put to use:

A veteran left his small farm to join the Army on the understanding that the wife and oldest son could look after the farm work. Several months later the son was injured and was prevented from returning to the farm. The operation of the farm suffered as a result and a number of debts were incurred. The Fund, in co-operation with a Department of Veterans Affairs welfare officer, devised a plan under which the farm was sub-let and the wife and children were moved to suitable accommodation in a neighbouring town. The cost of the re-location was paid by ABF.

Other instances of financial help under this category are where soldiers have died during service, or have been discharged as permanently incapacitated, or have been posted away from home leaving behind a financial problem. In all cases the ABF was prepared to make a grant in connection with a re-establishment plan which gave promise that the dependents would have a satisfactory income.

The types of re-establishment plan vary with the circumstances but the average case involves either the provision of training to make a wage-earner out of the wife or widow, or perhaps an expenditure for renovation of housing premises in order to permit rental of rooms, thus bringing in much needed revenue.

Category "C"—Loss, Damage or Destruction: The third category would seem to be simplicity itself. It can be used in any instance where financial distress has arisen due to loss, damage or destruction of goods, premises, etc., because of unexpected contingency

such as fire, flood or other personal disaster.

Category "D"—Temporary Dislocation of Income: This category is mostly of benefit to newly re-enlisted veterans. Here is a typical case: Suppose that, prior to re-enlistment in the Army, a veteran has encountered a temporary dislocation of income—the type of occurrence where perhaps his pay was cut off due to illness or due to a shutdown of his employer's plant. It stands to reason that, after exhaustion of his savings, he will incur household debts for grocery, rent and the like. As a solution to his problem he re-enlists but on his Army pay he is able to meet only his current needs and he has nothing left to pay up the back debts. This is where ABF can step in and, provided that there is actual distress and the man himself is deserving of assistance, it is quite likely that a grant could be made to meet his outstanding debts.

Category "E"—Retarded Rehabilitation: The Retarded Rehabilitation category makes provision for financial assistance in connection with cases where a veteran's attempt to rehabilitate himself in civil life has gone sour due to some genuine unexpected contingency. As an example, we might take the instance of an ex-Sergeant whom we shall call Gates. When he was discharged after the Second World War, Gates set himself up in a small sporting goods store. He was doing all right, too, until the landlord decided to sell the premises and Gates was evicted. He saw the futility of trying to start again in a new location and consequently he re-joined the Army. This was not the entire solution to his problem, though, because he had taken an expensive apartment for his family following eviction from the premises which he had used as a combined store-and-living-quarters. Real distress was being experienced through his inability to keep up the rent on his Army pay, so a plan was worked out under which the family was moved to a new location where they could reside with his wife's grandparents at a nominal rent. The costs of the relocation were met by ABF.

By way of general explanation, the ABF works on the basis of providing assurance of permanent solution to any problem involving financial distress. Accordingly, the Fund has extensive contacts with other sources of financial assistance—both those operated by government and those of a private nature. Through these contacts, it is often possible to obtain assistance over-and-above that which can be provided from the Fund and many soldiers and veterans today have been able to thank ABF for assisting in provision of housekeeping services, remedial treatment for crippled children, child care and a host of

other arrangements which are often necessary in distress cases.

A further point is that the Fund utilizes the services of various government and private bodies to assist in case work on behalf of applicants for financial assistance. Thus, it is possible to enlist the help of trained personnel of DVA and other welfare agencies when it is necessary to solve a problem for a serving soldier or his dependents.

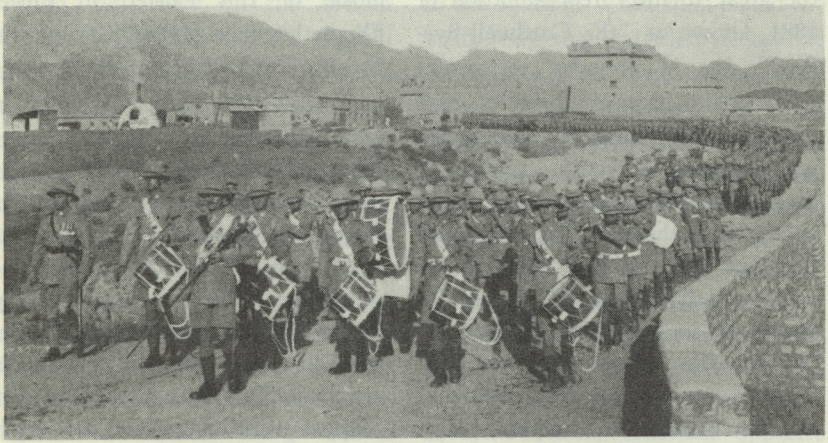
The mechanics of making application are simple. If a soldier has encountered difficulty he should discuss the matter with his CO and, if appropriate, an application can be taken through his unit. If, however, it would seem more advisable for the application to be made at the other end, the wife can apply through a representative of DVA or social welfare agency. All enquiries through Army channels, or to civilian agencies, are treated in strictest confidence and soldiers and their dependents can be assured that the Fund, and those performing the field work for the Fund are not only obligated to render service but are eager to be of assistance.

One of the stipulations of the legislation governing ABF is the necessity to remain in operation during the lifespan of the Second World War veteran body. Hence, over the long term, the Fund hopes to provide an "insurance" service under which any eligible person can be assisted, both financially and otherwise, when unexpected contingency has threatened the economic well-being of a family unit. Through the provision of this assistance, the Fund represents a means under which all Second World War veterans whose contributions went to build up the canteen profits and other sources of ABF monies can band together to aid those of their comrades-in-arms who encounter misfortune, and for whom a grant from the Fund can mean the difference between success and failure. The slogan of ABF officials is—"It's your Fund—Use it."

Record Load

The Air Force's C-124 Globemaster II has flown with a maximum weight of 210,000 pounds, including a pay load of more than 70,000 pounds —the heaviest load ever lifted by a production transport airplane.

The test, in which design take-off gross weight was exceeded by 35,000 pounds, was made under standard aircraft characteristic conditions to determine maximum load-carrying capabilities of the Air Force's largest operational cargo and troop carrier.—*Army-Navy-Air Force Journal* (U.S.).



REGIMENTAL MARCHES

By

MAJOR T. J. EDWARDS, MBE, FRHISTS.

In these days of austerity regimental bands are not heard so often by the troops as formerly. It follows that official regimental marches are not played so frequently as heretofore and there may be some excuse for short-service men not recognizing their regiment's "signature tune" when they do hear it. Like the Colonel, or Colonel-Commandant, the regimental march is a fundamental piece of army organization and should be as musically distinctive as the cap badge is in design.

Regimental marches were not "officially approved" until 1881 but before that year most regiments had a march which they considered particularly their own and which was reserved for playing on special occasions such as ceremonial parades, marching past at reviews and at the conclusion of band programmes. When bands are massed at large parades like reviews and inspections, it is not only necessary for all to possess the marches of all regiments, but also that they should have them identically the same as far as the music is concerned, otherwise they may be played in various keys. It seems, therefore, that when

**Major Edwards is author of "Military Customs", the second edition of which has now been published by Gale & Polden, 10s. 6d. This article is reproduced from the* British Army Journal *by permission of His Majesty's Stationery Office. United Kingdom Crown Copyright is reserved.*—Editor.

the great Infantry reorganization of 1881, known as "the Cardwell System," was in progress, regimental marches also became subject to some "law and order" and all proposals for new marches or for a revision of existing marches were ordered to be submitted to the War Office, to ensure that the new marches were appropriate and that all regular army bands would be in possession of the "approved" march. Whether the inference is correct or not, it is a fact that no march may be adopted, as a regimental march, without War Office approval, an announcement of which is made in Army Orders.

What's the Time?

Although the musical side of marches is now controlled there is still some latitude allowed in the rate of marching past a saluting point. As page 15 of the new manual "Ceremonial, 1950" shows, Foot Guards march past at 116 paces to the minute, Rifle and Light Infantry Regiments at 140, Highland Regiments at 110 and other units (including WRAC) at 120.

Where do the tunes that are elevated to the dignity of regimental marches come from? It will be shown that a very wide musical field is tapped for this purpose. For instance, consider "The British Grenadiers," a m rch common to the RA, Grenadier Guards and Fusilier Regiments: the music of this existed in Queen Elizabeth's time (1558-1603) but the British Army did not have regular grenadiers until the latter part of the 17th Century, so that the words "British Grenadiers" cannot be older than that. As a matter of fact "The British Grenadiers" seems to have made its first public appearance in a pantomime called "Harlequin Everywhere," produced at Covent Garden in 1780. This was also the official march of the RE until that eminent "Sapper" Field-Marshal Lord Kitchener, obtained permission in 1902 to have "Wings" instead.

Rule, Britannia

One does not have to be a soldier to know the famous song, "Rule, Britannia," written by Dr. T. A. Arne in 1740. In August of that year the Prince of Wales gave a party in commemoration of the Hanoverian Succession, the entertainment for which included a masque, "The fortunes of Alfred the Great." For this Arne wrote the music which included "Rule, Britannia." The figure of Britannia on our pence is the badge of The Royal Norfolk Regiment, hence "Rule, Britannia" is its regimental march.

There are a few marches that may be said to have come straight from the battlefield, the French revolutionary song "Ca Ira" of The West Yorkshire Regiment being a case in point.

During the attack on the French position at Farmars in 1793 the old 14th Foot could make little impression upon the enemy, who were buoyed up by continually singing "Ca Ira." As the Yorkshiremen withdrew the strains of the air followed them. While the Colonel was considering how best to tackle the situation a mist descended upon the locality, covering both friend and foe. Seizing the opportunity, he ordered his drummers to play "Ca Ira" when the regiment advanced, adding with a note of determination, "We'll beat 'em to their own damned tune." And so they did, hence "Ca Ira" is the official march of the regiment.

We've Lived and Loved Together

When the British and French forces were manœuvring for position just prior to the battle of Salamanca in July 1812, during the Peninsula War, they marched side-by-side on parallel routes for some distance, during which the officers saluted each other and the men exchanged ribald remarks. On this occasion the band of The Devons played, somewhat ironically, a popular tune of the day called "We've lived and loved together," which has been adopted as their regimental march. In April 1812, Wellington opened the siege of Badajoz. The Sherwood Foresters were quartered at some distance from the scene of operations, but they hurried to take their place in the fighting. When they joined the main body they marched in smartly to the tune of "The Young May Moon," a circumstance which led them to keep evergreen the incident by adopting the tune as their march.

Another episode of the Peninsula War is recalled by the march of The Border Regiment. In 1881, the 34th Cumberland Regiment and the 55th Westmorland Regiment were linked to form the present regiment. At Arroyo dos Molinos, on 28th October 1811, the 34th captured their "opposite number" in the French Army, the 34eme Regiment of Infantry, together with their Corps of Drums and Drum Major's staff. The "home" of the 34th is in John Peel's country, so that it was natural that John Woodcock Graves' song, "D'ye Ken John Peel," composed to celebrate his friend's exploits in the hunting field, should become its march. To this was added the march of the 34eme French Infantry and quite recently "Lass O'Gowrie," the march of the 2nd Battalion, has also been combined with the other two to form a composite regimental march. "Lass O'Gowrie" is a Scotch tune and links the old 55th with its original recruiting area in Scotland.

The Campbells are Coming

The mention of Scotland recalls that distinguished soldier of the 18th Century, General John Reid. He was also an accomplished flautist and

writer of marches and he wrote "In the Garb of Old Gaul" which has become the march of The Royal Scots Greys and 7th Queen's Own Hussars, the latter having been raised in Scotland in 1689. In 1881 it was laid down that "Highland Laddie" was to be the official march of the Scots Guards and all Highland Regiments, but today it is played solely, as a regimental march, by the Scots Guards. The Black Watch and The Seaforth Highlanders go by to "Blue Bonnets over the Border," The Highland Light Infantry to "Whistle O'er the lave O't." The Queen's Own Cameron Highlanders to "Pibroch O'Donnuil Dhu" and The Argyll and Sutherland Highlanders to "The Campbells are Coming." All of these tunes may be said to have national domestic associations with their regiments, but "Dumbartons Drums" of The Royal Scots has a strong regimental connection in that the Earl of Dumbarton was Colonel of the Regiment from 1645 to 1681. The Cameronians were raised under the walls of Edinburgh in 1689 so that their march, "Within a mile of Edinburgh Town" is most appropriate. The Gordon Highlanders played "Highland Laddie" from 1881 to 1932 when it gave place to "Cock O' the North." This was one of the airs played by Piper Findlater as he lay on the ground, wounded in the legs, at the storming of the heights of Dargai in Afghanistan in October, 1897. He refused to be moved to a place of safety and continued playing stirring Scottish martial airs until The Gordons won the day, for which he was awarded the Victoria Cross. When the regiment charged at Elandslaagte during the war in South Africa 1899-1902, they did so to "Cock O' the North," but it was not until 1932 that this tune superseded "Highland Laddie."

Which Charlie?

As may be guessed, "Wha wadna fecht for Charlie," is an old Scottish Jacobite air, but it is not the march of any Scottish regiment, in fact it is the official march of The Cheshire Regiment. "Charlie" refers to General Sir Charles Napier, the Conqueror of Scinde in 1843 by his great victory at Meeanee on 17th February of that year. The 22nd, Cheshire Regiment, was the only British regiment in his small force, and it led the assault. Sir Charles became Colonel of the Regiment the same year and he held the appointment for the next ten years. In at least two instances Scottish colonels have introduced a song from their homeland into English regiments. Both The Royal Hampshire Regiment and The Queen's Own Royal West Kent Regiment play the "Hundred Pipers," but in the former it is disguised under the title "The Hampshire."

The Gloucestershire Regiment gained their nickname of "The Slashers" by service in America and it so happened that when later they were serving in Ireland the song "The Kinnegad Slashers" was popular there. The conjunction of the soubriquet with their Irish service was responsible for their adopting "The Kinnegad Slashers" as their march. A very Irish tune is "St. Patrick's Day" and is, naturally, the official march of the Irish Guards; the Order of St. Patrick inspired the march of the 4th Royal Irish Dragoon Guards, "The Inseparables," this being a translation of the motto of the Order, "Quis Separabit." When the 4th and 7th Dragoon Guards were amalgamated in 1922 this march continued to be played as well as that of the 7th DG. Two other Irish Cavalry Regiments went further and amalgamated both their marches into one, namely "The Soldiers' Chorus" from Gounod's "Faust" of the 5th Dragoon Guards and "The Sprig of Shillelagh" of The Inniskillings.

The Royal Windsor

"Coburg" is the march of the 11th Hussars and 12th Royal Lancers, its authorship being attributed to the Prince Consort, Prince Albert of Saxe-Coburg-Gotha, who became Colonel of the 11th in 1840, soon after his marriage to Queen Victoria. Her Majesty's Mother, the Duchess of Kent, was also musically talented and the Slow March of the Royal Artillery, "Duchess of Kent," was composed by her. Another royal composer was Princess Augusta, a daughter of George III, who composed the march of The Worcestershire Regiment, "The Royal Windsor."

In 1835 a ban was placed on foreign tunes being played at reviews and other ceremonial occasions, including guard mounting. However, the march of the Coldstream Guards called "Milanollo" (re-named "The Coldstream") was written by a German named Hamm. It was written in honour of two sisters, Teresa and Maria Milanollo, who toured Europe as violin duettists about the middle of the last century. The Life Guards play the same march and have retained the original title. Our regiments have other foreign tunes, or music by foreign composers, as their official marches, the latest to be approved being "The Watch Tower" of the Royal Corps of Military Police, by a German named Herzer.

In a brief survey of official regimental marches such as this only a few representative tunes can be mentioned, but a thorough study of the subject will reveal many interesting sidelights on military history.

COMBAT IN WOODED AREAS

WALDEMAR ERFURTH IN "ALLGEMEINE SCHWEIZERISCHE MILITARZEITSCHRIFT" (SWITZERLAND)*

The influence of terrain and climate on the conduct of war is great, especially in the vast wooded zones of Eastern Europe. In the past, attempts by invading armies to push far to the East often have resulted in failure, leaving the attacker in a precarious situation. It is not only the vastness of the area that gives strength to the defences of the Soviet Union, but, above all, the wooded areas, which make movements in these areas almost impossible. For this reason, the military doctrine of the past has advocated avoiding such areas.

Clausewitz, in his book *On War*, stated:

> . . . When, as in Russia and Poland, a very large tract of country is nearly everywhere covered with forest, and the assailant has not the power of getting beyond it, his situation will be a very difficult one. We have only to think of the many difficulties of supply with which he has to contend and how little he can do in the obscurity of the forest to make his ubiquitous adversary feel his superiority in numbers. Certainly this is one of the worst situations in which the offensive can be placed.

Breaking the Barriers

Up to the time of World War I, Clausewitz's statement was recognized universally as being correct. However, at that time, the situation began to change, and now armies no longer attempt to avoid trackless and impassable terrain.

They regard neither terrain nor climate as barriers to military operations.

No General Staff of the Eighteenth Century would have envisaged operations north of the Arctic Circle in the wilderness of Lapland and Karelia, or of undertaking a winter offensive in the interior of Russia, especially on the large scale required by modern warfare. These areas, which formerly were avoided and into which only expeditions with special equipment dared to penetrate, are included, without hesitation, in strategic planning today. Thus, European armies are fighting in the jungles of Malaya and Indo-China, and even the areas of Eastern Europe are regarded as eventual theatres of war in which invasion armies might have to operate.

Effects of Climate and Terrain

It is the purpose of this article to discuss some of the problems presented by terrain and climate, and the

*This digest is reprinted from the Military Review (U.S.), which published it under the title "Reflections on Combat in Wooded Areas." —Editor.

demands that they make on military forces. An army command, which is unacquainted with or which underestimates the difficulties presented by terrain and climate, will be in danger of having its operations bog down or of incurring excessive casualties. This is what happened to the German Army of the East in the winter of 1941-42, when, without suitable winter clothing, with excessive and too heavy vehicles, and with weapons which were sensitive to cold weather, it was exposed to a severe Russian winter without any provisions having been made for such conditions.

Special Tactics Required

The tactical rules which have developed as a result of combat in open terrain, and which are designed to fit the conditions found in those areas, are applicable, only in a limited way, in wooded areas. Tactics which are adapted to combat in woods must take into account the lack of roads and the limited visibility. The forests of Eastern Europe, for example, are often without roads or boundaries. The Western or Central European, who has grown up in an urban community, is overcome by the psychological effects of the forests of the East. They are strange and unearthly to him, and he seeks to escape from their semi-darkness.

Combat Problems

Combat in wooded areas presents many problems peculiar to such types of terrain:

1. In some of the vast forest areas of Eastern Europe, major military operations are barely possible, or have only a small chance of succeeding. Such areas are difficult to traverse, and poorly suited for the movements of large military formations equipped with heavy vehicles. They slow down the tempo of offensive operations, consume manpower, and cost a great deal of time.

2. Wooded areas provide a disadvantage for forces engaged in offensive action. However, in the same areas and under the same conditions, forces engaged in defensive action will have an advantage. The correct evaluation, and the skillful exploitation, of the natural terrain features explain, for example, the stubborn resistance which the Finnish Army was able to offer the numerically superior Soviet forces during the winter of 1939-40.

3. The infiltration of hostile partisan forces in forested zones can never be prevented completely. In this respect, the conduct of ground reconnaissance presents many difficult problems.

4. The division, which has proved its value as a tactical unit in all the armies of the world, does not have the mobility nor the flexibility required for operations in wooded areas. Perhaps the mixed brigade is better suited for offensive action over such

terrain. For example, during the last war, the Finns reorganized several divisions into brigades and obtained good results with them. It must be remembered that it is important, when fighting in forest areas, to reduce the number of vehicles in the division and unit trains.

5. The most suitable time for offensive operations in wooded terrain is during the winter, when, due to the freezing of swamps and lakes, the terrain is traversable off the roads. In addition, only during winter weather is it possible to count on the use of roads. During the spring thaws, the few roads found in such areas became unusable.

6. Forest areas present particular difficulties in the employment of air forces. For example, adequate close support and aerial reconnaissance are almost impossible.

7. Warfare in wooded regions, like fighting in tropical jungle terrain, will, of necessity, sooner or later, assume the characteristics of guerrilla warfare, gradually sinking to the level of individual combat, carried on at close range. Such combat can be supported only in a limited manner by artillery and heavy weapons. It is fought, in the main, with the machine pistol, the hand grenade, and the knife.

Training and Manoeuvres Essential

The Western European armies neither favour nor engage in manoeuvres in extensive wooded areas during severe winter weather. However, if it is desired to prepare troops for all possibilities and to attain the same degree of efficiency that the East holds in this field, training in combat in woods and in winter warfare cannot be neglected.

Conclusion

Modern techniques have created the means for overcoming natural difficulties of terrain and climate. By evaluating the natural terrain features correctly, and exploiting every advantage, combat under conditions formerly regarded as unfavourable is possible, and can be successful.

AUTOMATIC AIR BRAKE

An automatic air brake has been developed for use in high-speed aircraft. This device, similar to a governor on an automobile, restricts the speed of the plane to the limits for which the framework and wings are designed.

Latest jet engines and rocket engine developments make it possible to drive planes so fast that there is danger that the engine platforms, airframe, and wings might fail.

The new brake works automatically from a speed-measuring device.—*Science News Letter* (U.S.).

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