

## ARMY SPECIALIZATION

### BEGINNINGS OF THE ARMY.

#### (Grade XII)

In the time at our disposal and in times such as those in which we live we cannot examine in detail the growth of the British Army and its part in the building of the British Empire. The folly of the past is the weakness of the present. In the last analysis man seems to think he can decide an issue by force of arms. The pages of history show us many instances of settlement in this fashion. In earliest days man owned only what he was able to hold and social groups became larger because of the need to protect one another and hold what property they had. Villages existed and tribes grew and prospered according to their ability to support an able leader who would beat off recognized enemies and increase tribal holdings. To be a man was to be a warrior; to be a weakling was to be herded in the tents with the women. Life was accepted on that basis. Men must fight and women must work and so—early society.

From Grade IX history we learn of the early struggles of the native Celts softened by centuries of protection under the Romans in trying to hold their land against the more warlike North Western European tribes. In succession we see the Picts.—Scots, Angles, Jutes, and Saxons all win their way in the British Isles and settle down and become assimilated. In turn these tribes fought valiantly to resist the Danes—most warlike of all the European wanderers. No nation was yet on the island of Britain but a collection of kingdoms warring among themselves.

King Alfred earned special immortality because of the success of his efforts to bring about a species of unity against the Danes. When he was able to lure his warriors from the homes and make them forget their private grievances his able leadership brought a measure of success.

With the passing of generations there grew up a principal of national service by which every male from sixteen to sixty years could be called upon for the defence of his own country-side. Armed by himself—according to his means and led by his local over-lord he might do battle for as long as food, strength, enthusiasm and the possibility of loot sustained him.

It was with such an army that King Harold prepared to meet the brigand William of Normandy. He had, however, the tradition of King Canute a few years before who maintained a royal bodyguard of permanent soldiers. This band of men did valiant and loyal service for Canute in extending his influence further than that of any English King up to that time. These house carls were the first permanent military unit to uphold the British cause.

When William was victorious at the Battle of Hastings a new phase began. Direct allegiance to the king from a variety of vassal lords kept the powerful Norman barons who had accompanied William, from rivalling him too closely in power. The Domesday book instituted at this time helped to record services due the king and one of the major duties was military service. William's successors accepted a money payment in lieu of such service and the king then was able to hire mercenary hands for foreign service. For a century blood and treasure were misspent in a vain endeavour to build a British Empire in France. During this struggle the vocation of the

“fighting man” became established in England. The basis of the British Army had been established.

Men went to war in those days in order to make something out of it—the king to acquire new territory, and his followers, anything they could lay their hands on. When a nation initiates war to-day is it for any other reason

Conditions in England in the thirteenth and fourteenth Century did not favour the man without property and many men chose to become soldiers. Young men of good family followed the tradition of their class into War and we see the organization of “Free Companies”—fighting units owing allegiance only to their leader and to a hungry purse. They would transfer their support upon eve of battle to a higher bidder in much the same way that a business executive will accept an attractive offer from a rival firm without necessarily attaching any cowardly or disloyal significance thereto. In those days men fought for their “solde” or shilling and the tradition for a long time persisted in later years that when a man joined the British Army he accepted “The King’s Shilling”.

Man had begun, fighting hand to hand, with fists, stone, club, lance, pike, sword, spear, long-bow and cross-bow. He was learning to inflict wounds from a distance as time progressed. In 1248 Roger Bacon discovered what we know as “Gun Powder”. It was not long, as is so often the case with all scientific advances, before it was employed as a missile propellant and war entered on a new stage. Man could no longer become a soldier over night. Specialization began; cost of equipment soared; armour for defence changed; formations in fighting changed.

Gold from the “New World” began to flood Europe and the purchasing power of money was consequently greatly reduced. The kings of England were not subsidized in

a regular way from parliament and the revenues from their royal domains were insufficient to enable them to maintain large bodies of troops or to make war on the continent. Irregular means adopted for raising money brought dissension in the realm. The Tudor monarchs therefore gave thanks that they ruled an island, made what capital they could of the navy and the commercial maritime expansion. The English military lagged far behind that of the continent.

Henry VII did organize in 1485 the "Yoemen of the Guard", a Royal body guard which has persisted unto this day. National Service again appeared in the form of "Shire Levies", a kind of now permanent militia which trained for a few days each year. They could be mustered upon command of the king, a practice which Parliament resented having no control in the matter. From our Grade IX studies on "King versus Parliament" we can trace the events which followed which beheaded a king, created a Commonwealth, produced a Dictator, evolved an Army, and proved what a menace an army can be after its reason for existence had been fulfilled.

When Chas. I and Parliament came to blows in 1642 the "Shire Levies" took sides as their sympathies dictated. It was found that their few days annual training had not made them soldiers and that their officers were incompetent. The general officer of a force also commanded a sub-unit and in fighting with his own unit he lost all touch with the battle as a whole when the engagement started. The picture is that of a playing-coach in a foot ball game who becomes so interested in proving himself better than the man opposite him that he forgets the strategy of the game.

Neither side had officers or soldiers schooled in European tactics so it looked as if the war would be fought in a desultory catch-as-catch-can fashion.

An undistinguished country gentleman from Huntingdon with no previous military experience saw Prince Rupert's Cavalry win the Battle of Edgehill for King Charles. He had sat in Parliament for fourteen years and was forty-three years of age. The King had good cavalry and the type of man better fitted to make a dashing soldier. Parliament had money, most of the sea ports and the larger cities as strongholds. Our country-gentleman betook himself to the Eastern counties and there he raised his own cavalry. He trained a force of "such men as had the fear of God before them and made some conscience of what they did". Discipline in this force was strict, plundering was punished by death, swearing cost a shilling per offence and drunkenness was rewarded by a sojourn to the stocks. The new troopers were well horsed and lightly armed. They were taught to ride well and to take as good care of their horses as they would of themselves.

At Marston Moor Captain Cromwell—our man from Huntingdon led his Ironsides into battle with such telling effect that what would have been a defeat became a victory. That was in July 1644. With the coming of harvest both armies began to melt away. This led Cromwell to induce Parliament to organize, train, equip and pay an army which would not dissolve at harvest time. This was authorized and the "New Model" army came into being—the first of its kind to perform on English soil. It was composed as follows:

11 regiments of cavalry (600)	6,600
1 regiment mounted infantry	1,000
12 regiments foot-soldiers (1,200)	14,400
	<hr/>
	22,000
A small train of artillery.	

There were less than 25,000 men in this new army—a mere handful in modern war—yet sufficient to overthrow the King's forces, humble Scotland and earn undying hatred in Ireland. The army was well trained and well handled by Cromwell who before the campaign was over was made commander-in-chief. In Cromwell's army a Captain-General commanded the whole, a Sergeant-Major-General commanded the Infantry and a Lieutenant-General commanded the cavalry. To-day the Sergeant-Major General has become the Major-General, a rank still lower than that of Lieutenant-General.

#### From 1660 to 1815

The growth of the army was slow. It was a force which was viewed with alarm by Parliament who regarded it, not without some reason, as a body loyal and responsible only to the King. As a result of the lack of public enthusiasm for the force, recruits, who enlisted for life, they were not of a very reputable character and living conditions, which in this age would be considered intolerable, were not such as would attract a high class of personnel.

The Army was used, in the main, to effect the security of outlying parts of the growing Empire and the myriad of small actions which were engaged in are remarkable chiefly for the heroic conduct of small, unsupported, forces which met with almost unbroken success for the ensuing 250 years. The following pages deal chiefly with the leaders who achieved fame on the basis of their success in the more important campaigns but the long record of British triumphs in the plains and mountains of India, in the swamps and deserts of Africa, in the Indies and in the forests of North America constitute a record of achievement unlike any other ever recorded in history.

#### Marlborough and the War of the Spanish Succession

In 1702 Charles II of Spain died without a direct heir and, despite previous treaties, the French under Louis XIV proceeded to move French troops into the Spanish Netherlands and to occupy the fortresses on the border of Holland. The Dutch were alarmed to the verge of panic and the British were no less interested as the action of Louis would, if successful, result in French control of a good two-thirds of Europe. The stage was set for a great European War. England, as is usually the case, produced a man equal to the emergency.

John Churchill was the third son of one Winston Churchill of Mintern, in Dorset. He was born in 1650 and was nearly fifty-two when he was appointed Captain-General of the British forces at home and abroad on the 15th of May, 1702. He was educated at the City Free School in Dublin and at St. Paul's School in London. He entered the service of the Duke of York as a page and, through the influence of the duke, he was gazetted as an ensign in the 1st Foot Guards (the Grenadier Guards) at the age of 17. He served on the continent under Turenne, the greatest general of the time, and was so successful in his profession that he was gazetted a colonel at the age of 28. In 1682 he was raised to the peerage as the Earl of Marlborough and appointed Colonel of the Royal Dragoons. Six years later he was Lieutenant-General and the most distinguished soldier in England.

War was declared on 4th May, 1702 and a week later Marlborough set out for the Hague where he took command of the allied forces. In the first campaign, hampered as he was by the division of authority and by the procrastination and excessive caution of his Dutch allies he cleared the French from the Meuse and, before

the campaign was broken off for the winter he had recovered all of the fortresses on that river up to and including Liege. On his return to England, Queen Anne created him Duke of Marlborough and rewarded him with a pension of 5,000 pounds a year for life.

The succeeding years from 1703 to 1709 were a record of continued success. Burdened as he was by over-cautious allies Marlborough nevertheless contrived, by the skill of his manoeuvres, to defeat the enemy wherever he could engage him. Blenheim, the Schellenberg, Ramillies, Oudenarde Malplaquet are all names to stir the imagination and the memory of Britons everywhere for all were triumphs of British arms and British leadership against the greatest military power of the day.

He died in 1722, and left behind a legend of military genius which has been equalled by few men of any nationality; indeed, as one dispassionate historian puts it, "he was the only commander of modern times whose name it is not an impertinence to mention in the same breath as that of Napoleon. His perception, infinite patience and, above all, his great consideration for his men were factors contributory to his greatness. He, almost alone among the great commanders of the period, considered no trouble too great to save the men avoidable hardship or loss. He saw to their clothing, their pay and their food; cared for the wounded and got discipline by respect and not by fear.

The campaign of 1759 was aimed at the complete elimination of the French in North America. General Amherst was to advance northwards on Montreal while, at the same time, Quebec was to be attacked by sea and by land. For this latter expedition Pitt chose James Wolfe, the young Brigadier who had distinguished himself at Louisburg, two years before. The choice was un-

usual in many respects. Wolfe was possibly as unlikely looking a soldier as there was in the British Army. Tall, narrow shouldered, with spindly legs, a receding forehead, receding chin, turned up nose, untidy red hair, a pale face, he had an unhealthy body and a hot temper. Only thirty-two years of age, he had already served in seven campaigns! The tale is told that one courtier told the king "That man Wolfe is mad". "Mad is he?" said George. "Well, I hope he'll bite some of my other Generals".

The force under Wolfe's command numbered 8,000 men, divided into three brigades under Monckton, Townshend and Murray. There was an interesting innovation in the composition of the force, all the best shots in the various units were banded together and, encumbered with but little equipment, were designated as "Light Infantry".

The expedition arrived off the island of Orleans on the 20th of June and a landing was made on the island without difficulty, but nothing could be done from there other than view the strongly fortified objective. To the west the bank of the river was a rugged cliff, to the east the land rose in a steep incline to a strongly entrenched position known as the Beauport lines. The eastern flank of this position rested on the gorge of the fast flowing Montmorency River. Two attempts to carry the Beauport lines met with failure; the first was a landing to the east of the Montmorency which proved impassable and the second was an effort to make a direct frontal assault on the lines which was repulsed with heavy losses. Then, to make matters worse, the little army was weakened by disease and casualties, over a thousand men had been killed or wounded, Wolfe himself was hit, and only 5,000 men could be counted on as the effective strength to actually attack Quebec.

With this small force on 6th September began the plan which was destined to end in ultimate success. On that evening the army embarked and sailed past Quebec on up the river for eight miles. The French followed the move with interest and turned out to man the fortifications. When the tide ebbed the fleet came back down the river while the puzzled French raced along the ramparts to watch their movements. Day after day this took place. Bougainville and his men were exhausted. Montcalm, the French Commander-in-Chief, was puzzled but felt sure it was a faint and that the main attack would be on Beauport lines.

At dusk on the 12th September the final plans were ready and Wolfe issued his last order which concluded with a phrase very like that heard at a later date on the eve of Trafalgar, "Officers and men will remember what their country expects of them". Under cover of a bombardment of the Beauport lines the plan was put into action. Five thousand men were in the ships which had, as usual, gone up beyond Quebec. As usual reasoned the French, they would come down again with the ebb tide.

At 1 a.m. on the 13th the ebb set in and, leaving the fleet riding at anchor, Wolfe and 4,500 men in 30 small boats began a cautious descent of the river. They finally came to what is now called "Wolfe's Cove" where Colonel Howe and 24 volunteers landed and climbed up the face of the cliff. A small sentry group at the top was overpowered and before dawn the last of Wolfe's army made their way out onto the Plains of Abraham. Montcalm heard the news at sunrise and hurried his troops from the Beauport lines, across the Charles River, through the city and out onto the plain.

It was a miserable morning, a thin drizzle of rain was falling, and by 9 o'clock the two armies were in position

5000 yards apart. Fortunately for the British, Montcalm decided not to wait for Bougainville, who was watching the ships upriver, but to attack at once. The French advanced to the attack, stopping occasionally to fire a volley at the stationary British line. Not until they were 35 yards away did the British Commander give the order to fire, and then there burst forth a murderous volley from the British regiments which were drawn up in two ranks. The French wavered, fell into disorder and Wolfe, putting himself at the head of the 28th Foot, gave the order to charge. A few moments earlier he had been wounded in the wrist. In the charge he was wounded in the groin and then in the chest and fell unconscious in the arms of an officer of the 28th. He recovered consciousness for a moment, the cry "They run, see, they run", stirred him. "Who run?" he asked. "The French", was the reply. "They give way everywhere". "Go one of you to Colonel Burton", he said, "and tell him to march Webb's Regiment (the 28 Foot) down to the Charles River to cut off their retreat".

The French resistance was broken completely and in wild confusion they ran back into the city bearing with them Montcalm, who had also received a mortal wound. Quebec capitulated five days later and Brigadier Murray with a British garrison was soon in occupation.

The following year Amherst, Murray and Haverland converged on Montreal with seventeen thousand men. The French force, reduced by disease and hardship to less than 3,000, was helpless to resist and on the 8th September, 1760, Montreal capitulated and with the signing of the Treaty of Paris in 1763 Canada was finally ceded to Britain.

NOTE.—Material on the American Revolutionary War, Napoleon, and the War of 1812, has been omitted as not presenting very marked military evolution. It may be studied in Grades IX and X History.

## THE NINETEENTH CENTURY

## The Crimean War 1854-56

The thirty years following the defeat of Napoleon at Waterloo saw an unusual era of peace settle over Europe. Britain, along with all the other countries which participated in the struggle, was exhausted and public interest centered on political and economic problems.

In 1852 Louis Napoleon, nephew and heir of the Emperor Napoleon I, had himself proclaimed Emperor of France and, in order to prove himself as his uncle's heir, he felt obliged to obtain revenge on the powers responsible for his overthrow. Britain he could not afford to quarrel with for he needed her help; Russia, Austria and Prussia were left and he decided to fight them in that order.

In 1854 Russia invaded Turkey and the desire to divert Russian attention from Afghanistan and India drove Britain into an alliance with France, who thus obtained the help needed to revenge the retreat from Moscow. In March, 1854, war was declared on Russia. In the meanwhile, the Turks had gained several successes on land and the threat to Constantinople had been averted by their own efforts; consequently the Allied armies, which had been landed in Bulgaria, reembarked for the Crimea.

The British force was small, about 25,000 all ranks, but it was well drilled and composed of long-service troops. For a short campaign within easy reach of its base it would have been admirable but it had no transport whatever and no practice, except for one camp exercise the previous year, in even brigade manoeuvres. Few of the officers, with the exception of Peninsular veterans, now almost too old for active service, had seen action and they and their men were unaccustomed to providing for themselves, nor had they the means to do so.

The war was peculiar for several things including the disclosure of the fact that, while extremely brave, the Russians found it quite impossible to control their troops unless they adopted solid mass formations. This of course resulted in appalling casualties. The first action was the battle of Alma; it was the last "full-dress" battle in which the British Army ever participated. The army was drawn up in review order and, once across the river, they pushed on up the slope in as close to parade-ground formation as possible, in fact, it was the only formation they knew, with the result that they had to halt many times to re-establish their dressing. The first Victoria Cross ever awarded was bestowed on Sergeant Luke O'Connor, he later became Colonel of his Regiment, for valour in this engagement.

Later battles in the campaign, while they gave abundant proof of British courage and the accuracy of British marksmanship, resulted, in the main, in a great increase in the prestige of the French Army and the conviction of the Continental powers that Britain had no military organization and no well-trained reserve to replace losses in her small striking force.

From this time on the efficiency of the British Army increased steadily but the damage was done. The prestige of Waterloo was expended and the subsequent difficulties with European powers, right up to the First Great War, were due to the conviction that we, as a military power, were no longer to be feared.

Some lessons learned in the Crimean War were:

1. Supply Transport must be developed.
2. Officers must be carefully chosen and trained. Younger men were needed.
3. Government control and direction were essential.
4. Reserves must be trained to replace Active Service Troops.

To bring this about Lord Cardwell was instrumental in having passed The War Office Act of 1870.

Control of every branch of Army administration vested in the Secretary of State. Administration to fall under three heads—(1) Military; (2) Supply; (3) Financial; Commander-in-Chief head of Military Branch, which included the Militia and Volunteers for the first time (previously these had been under the Home Office).

#### **Abolition of the Purchase System**

A survival from the Free Companies of the Middle Ages (in which each officer, in accordance with his rank, received a proportionate share of booty or ransom), an officers commission and his subsequent promotion to the different ranks had a definite pecuniary value.

Royal Warrant—1720 fixed the regulation price of a first commission at £450. The cost to the country of abolishing the Purchase System was £7 millions in compensation—a small sum to redeem the Army out of pawn from its officers.

#### **Linked Battalions**

Number of battalions serving at home and abroad equalized. To achieve this, Cardwell linked together all the Regular Regiments of the line in pairs, allotting two pairs to a Brigade District. At the Headquarters of the Brigade District was the Depot, which provided recruits for the linked regiments, two of which would normally be stationed at home and two abroad. The recruits for the regiments abroad would pass through the corresponding home regiments which would, therefore, perform the important task of feeding the foreign regiments. The linked regiments would also have a definite and common territorial connection through their common Depot and

recruiting area. Two militia battalions were also allotted to these Brigade Districts and arrangements were made for providing training for the volunteers within the District. This re-organization not merely provided a balance between service at home and abroad; it also helped mobilization, as reservists could join up through the Brigade Depot in their own District.

#### **The South African War**

From 1899-1902 Britain was engaged in a costly, wasteful and unpopular war. Whatever the causes and the gains made may have been, the South African War revealed many weaknesses. They were, lack of trained staff officers, no Brigade or Divisional organization which had had to be constructed out of units and corps at the last moment, staffs for them hastily gathered, no proper measures for ensuring adequate reserves and replacements, no General Staff to think and plan for the future, nor was there anyone whose function was to advise the Cabinet on Defence policy as a whole.

The Esher Report of 1904 embodied all these shortcomings and resulted in the formation of a General Staff; abolishment of Commander-in-Chief and vesting the control of the Army in an Army Council, consisting of the Secretary of State for War, four military members, one civil member and a finance member.

The Defence Committee or the Committee of Imperial Defence was re-instituted.

The task of organizing the Army itself was undertaken by the Secretary of State for War, a Scottish lawyer, Richard Burton Haldane. Aided by Sir Douglas Haig, he organized the British Army on a basis far more efficient than anything it had known before. The organization to be achieved was to and did stand the test of

war. Organization achieved included—staffs, supplies, transport, auxiliary services and mobilization arrangements. When organization was completed, the British Regular Army at home comprised six Infantry Divisions and one Cavalry Division, each self-contained with its staff and reserves immediately ready for service with their proper complement of line-of-communication troops. The old militia was transformed into the Special Reserve, to reinforce and find drafts for the regulars and the heterogenous mass of yeomanry and volunteers welded into fourteen Territorial Divisions and fourteen Mounted Brigades, complete with Artillery and ready, with some additional training, to take the field for home defence and as a second line.

The Staff Colleges were enlarged, manoeuvres of large formations were started and great attention paid to collective training and to musketry. Officers' Training Corps were also established at Universities and Schools to provide a flow of officers. Further, the Dominions were consulted on Defence matters at the First Imperial Conference held in 1907 and agreed to establish General Staffs on the same lines as the British, working in close conjunction with it, exchanging officers, training on the same lines and using the same arms and equipment. (Canada broke this agreement by introduction of the Ross rifle which failed to stand the test of war conditions). The Chief of the General Staff henceforward was known as the Chief of the Imperial General Staff.

The result of these reforms was a regular army at home organized for war, a Reserve to make good the wastage for at least six months and to replace regular battalions at overseas stations, and a Territorial Force which would receive some training each year, which would be embodied when a danger threatened and would

be a support for home defence and, possibly, a means for expansion.

One fact stands out above all the mis-management of the Boer War. It was in this war that the Dominions of the Crown for the first time really pronounced a definite ideology in regard to Empire defence. Some thousands of troops were enlisted to carry on the struggle and hundreds of so-called "colonials" died for the perpetuation of Imperial sovereignty. Indeed, the words "colonies" and "colonials" were becoming out of date. They had been colonies, now they were nations and of these, Canada was not the least.

It was more than fortunate that the consolidation took place in sufficient time to get into operation so that although 1914 found England unprepared, the machinery was there and the thinking had been done. Expansion was indeed rapid and efficient.

#### RECENT CHANGES IN THE ORGANIZATION OF THE ARMY.

**General**—It would appear logical to give a brief outline of the changes and development which have brought the modern army to its present organization. The army is divided for simplification into the fighting arms, the administrative troops, and the command and staff. Prior to 1914 the fighting arms had been the same for some centuries, cavalry, artillery, and infantry. The work of the engineers and the signals had increased with the advance of science, and aeroplanes were being developed experimentally for war. The fighting duties of these arms was secondary to their technical application. The fighting troops were generally divided on the basis of 120 sabres (cavairy) and 6 guns (artillery) per 1,000

rifles. Today the sabre has almost disappeared, having been replaced with Reconnaissance troops. The armoured troops have replaced from 30 to 60 per cent of the fighting troops in the modern army, and artillery which used to be entirely "supporting" in its aid to the infantry, is mobile and functions well forward. The infantry has the same task as formerly to perform, except that they move faster, and rifles no longer are the bases of fire power only. Rather it is the fire power of the entire force, co-ordinated and used in concert.

The signals whose duty it was to supply communication, now may be also called upon to take in addition a part of the fighting role. The same applies to the engineers, who not only carry out engineering tasks but must be prepared to act offensively when necessary. All arms of administrative services working as they must do, well forward to keep the fighting men supplied in modern mechanical warfare, are able to protect themselves and when necessary join in an attack or defence.

**Fighting Troops:**—Each arm in military organization was first formed into units, which for tactical purposes was the largest body that could be commanded and controlled on the battlefield by one man. When units are combined these are called formations. Units have a definite composition, while formations vary as to the number of units which they may include. Historically the infantry unit was approximately 1,000 men, and was known as a Battalion. It has long ceased to be a unit in the tactical sense because communication, and the increased efficiency of weapons, have spread the unit over broad frontages, and decentralized the command. The Battalion is now a formation of Companies which are broken into sub-units. The company is the tactical unit

on occasion, while the smaller unit called the platoon has now generally assumed that role. The platoon is again broken down into fire-units or sections, which are the largest number of men whose fire can be controlled by one man. The infantry now fights as a part of a more mobile formation, combining all arms and their weapons in a *group* which is still known as an Infantry Brigade. In each infantry Brigade there are three infantry Battalions.

In 1914 the cavalry unit was the regiment organized into squadrons. The strength of the squadron (the tactical unit then) was roughly 150, sub-divided into troops. Three regiments grouped in a larger formation was a Brigade. Two or three Brigades constituted a cavalry division. The cavalry as previously stated has disappeared, the reconnaissance battalion, a fast moving mechanized unit, taking its place in the field. The squadron, and the troop sub-units are retained in the organization. The Recce. Battalion is naturally in the decentralized brigade formation, or brigade group by squadrons from Divisional command.

The artillery of the World War is still organised into batteries with three batteries making an artillery Brigade, and three brigades a regiment. As stated the function of supporting the infantry has altered, due to the change in the tactical unit. The artillery to-day is for the most part mechanized and is allotted to formations, the brigade group again having its allocation of field artillery. In modern warfare part of the work of the artillery is now done by the army tanks, which combine the qualities of the mobile artillery, and machine guns. Artillery in its own right still exists with specialized changes, providing anti-aircraft regiments for protec-

tion against aeroplanes; anti-tank regiments for protection against tanks and armoured fighting vehicles; the field artillery functioning as formerly. Heavy artillery exists for coastal defence and demolition of fortifications.

Army tanks are in brigade formations, and adopt the regiment, squadron, and troop of the cavalry for the sub-unit designations. It is interesting to note that the vehicles are referred to as ships of sea, and the signals for manoeuvres and deployed formations are the same.

This is no doubt due to their origin, or as Winston Churchill states in *Liberty* (May 17, 1941), their causation:

"In addition to this, the next day, February 20, I sent for Mr. Tennyson d'Eyncourt, the chief constructor of the navy, and convened a conference.

As a result of it the Landships Committee of the Admiralty was formed by my order under the presidency of Mr. Tennyson d'Eyncourt, reporting direct to me.

From the formation of this committee on February 20, 1915, till the appearance of tanks in action in September, 1916, during the Battle of the Somme, there is an unbroken chain of causation."

There are three brigade groups in each division, which is the next highest formation. The brigade group is organized on a basis of three infantry Battalions, and troops attached from Divisional Headquarters, such as field artillery, tanks, machine gun and reconnaissance units. The attached fighting units leave at division command a portion of their fighting force, from which headquarters all large scale tactics are controlled. It therefore follows that troops attached to divisions, or division-

al troops such as signals, artillery, and tanks, should be in divisions of four tactical units, one going to each of the three brigade groups, and the fourth remaining under the command of the division headquarters—to be used as a reserve when necessary.

Formations such as brigade groups, requiring the services of compact units functioning in smaller numbers than it is economical to train and administer, are found in another formation called corps. There are two or more divisions in an army corps. This allows the decentralizing of corps troops to the division. These troops are supplied to a division as circumstances dictate. Examples of this are the Royal Canadian Army Service Corps, the Royal Canadian Ordnance Corps, the Royal Canadian Corps of Signals, and the heavy artillery of the Royal Canadian Artillery. An army is composed of two or more corps grouped in a formation.

To maintain an army in the field, organization behind the actual fighting troops necessitates tremendous staffs and equipment. To provide spiritual and medical attention to those who are not fit to fight and to provide entertainment and creative comforts which aid in the maintenance of morale, we have the Services. The heads of these have the right to communicate direct to their relative head of the service at home. Such is briefly the transition from 1914.

#### EXERCISE

1. Draw a diagram of an army, down to the Battalion, not including attached troops.
2. What are the fighting arms of the Service?
3. What arms contribute to fighting efficiency?
4. Draw a sketch showing your idea of the disposition of troops in a theatre of war. Include all the arms you can such as Tanks, Motor Cyclists, Reconnaissance Troops, Infantry, Artillery, Air Support, the Medical Corps, and etc.

## A COMPARISON BETWEEN CANADA'S LAST WAR ARMY AND CANADA'S PRESENT ARMY

*The following appeared in the daily newspapers, and was reprinted in "Maclean's Magazine" of Dec. 1, 1941. It was originally given in an address by Victor Sifton, Master-General of the Ordnance, N.D.H.Q. Tabulated in column form, the comparison can be seen at a glance.*

THEN	NOW
The Canadian Army had thousands of horses.	There are no horses in the establishment.
For every dollar spent on armament and transport	—we now spend five dollars.
The cost of feeding, housing and paying our troops—	—is now only 15 per cent greater.
An infantry division travelled at 2½ miles per hour, 20 miles daily.	Now travels at a minimum of 10 m.p.h., can go much faster, many more hours daily.
A Canadian infantry division had 4,400 horses, 153 motor vehicles.	A Canadian infantry division has no horses; 3,500 motor vehicles of 10 different types.
Its cost of upkeep for one year was 2 million dollars.	Cost of these vehicles plus one year's upkeep is 12 million dollars.
The fire power of a division was 48 field guns 96 machine guns 40 trench mortars 432 Lewis guns	The fire power of a division is more field guns double number automatic small arms new and better mortars plus antitank rifles and guns and anti-aircraft guns.
Cost for one year, upkeep, ammunition, wastage, etc., 5 million dollars.	Cost for one year, upkeep, ammunition, wastage, etc., 27 million dollars.
Overall cost of a division varies according to severity of fighting, 30 to 48 million dollars.	Overall cost of a division, creation and maintenance, one year 86 million dollars.
Canadian Cavalry Brigade.	Canadian Army Tank Brigade.

Both have about the same strength in men.

## A COMPARISON

Cost for one year plus ammunition, 3½ million dollars.	Cost (same basis) 32 million dollars.
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The difference in fire power is so great that a comparison is not possible.

Cost of the whole Canadian Corps in France for full fiscal year, 1916-17, was 143 million dollars.	Canadian armored division, cost to equip, maintain in action one year, 155 million dollars.
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A division of infantry in column of route occupied 15 miles of road.	A division of infantry in column of route occupies 60 to 140 miles of road.
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At 10 vehicles per mile, the Canadian Corps at present in England would occupy on the road a distance equal to the distance from Toronto to Vancouver.

12,000 soldiers had at their disposal in army equipment 3,300 horsepower, which is about equivalent to the electrical power used in Gananoque or Lindsay.	The 12,000 soldiers in an armored division have at their disposal 394,237 horsepower, as much as the whole City of Toronto uses in electrical energy.
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One armored division plus one infantry division develops more horsepower than all the electrical energy used in the Province of Manitoba.

The best type of recruit was a farm lad. He was strong and handy and knew how to handle horses.	He is still an excellent recruit, the more so if he has had experience repairing farm machinery and operating the tractor.
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25 per cent of infantry must be mechanics, 4,100 out of 17,000 men in a division must be skilled in one or other of 53 trades.

The scientific employment of machines rather than flesh and blood is the goal at which we are aiming.

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## 1. THE ADMINISTRATIVE SERVICES. (Army).

In grade X reference was made to the administrative services. These services are controlled by the Branches of the Department of National Defence at National Defence Headquarters, commonly abbreviated to N.D.H.Q. As already stated, these Branches are General Staff Branch, or "G" Branch, Adjutant General's Branch or "A" Branch, the Quartermaster General's Branch, or "Q" Branch and the M.G.O.'s Branch, known as the "M.G.O.'s Branch. The general duties of these branches was outlined in Grade X and need not be repeated here.

The Administrative Services function as a part of the above branches, each branch having one or more services as is outlined below.

### Services Controlled by the General Staff Branch

#### *Survey Service*

This service is responsible for making topographical, geological, and trigonometrical surveys; the issuing of necessary technical information for artillery, railway, geological, and other surveys; the distributing of maps and air photographs.

The personnel of the service is provided by the Royal Canadian Engineers. The names of the units are the Survey Depot, and the Field Survey Company of the Royal Canadian Engineers.

### Services Controlled by the A.G.'s. Branch

#### *Chaplain's Service*

This service is responsible for the spiritual and moral welfare of all personnel in the field.

The personnel of the service is provided by the Royal Army Chaplain's Department.

#### *Medical Service*

This service is responsible for the maintenance of a high standard of mental and physical health.

The personnel of the service is drawn from the Royal Canadian Army Medical Corps, and the Canadian Dental Corps as well as specialists from civil sources.

#### *Pay Service*

This service is responsible for the provision of funds, the issue of pay and allowances, the payment for services performed for, and materials supplied locally to the army, the accounting for cash expenditures and receipts, and any other duty in connection with payment of public funds in relation to the Army in the field.

The personnel of the service is provided by the Royal Canadian Army Pay Corps.

#### *Provost Service*

This service provides the facilities of a first rate police system with additional duties as may be required by service in the field, such as the custody of prisoners of war until they are handed over to an internment camp.

The personnel of the service is provided by the Canadian Provost Corps.

### Services Controlled by the Q.M.G.'s Branch

#### *Labour Service ("Q")*

The service functions not unlike the employment service in civilian life where labour is provided for any purpose desired.

The personnel are drawn from the labour corps, the officers and non-commissioned officers of which will be sent from personnel of all arms either physically unfit for combative service, or specially qualified as language or other experts. The rank and file of the labour corps are those who are physically unfit, men specially enlisted for the corps, men enrolled on a civilian basis in a theatre of operation, or prisoners of war.

### *Hiring Service*

This service is responsible for the purchase, requisition and hire of billets, training grounds, buildings and lands, and for the regulation of all claims made in connection therewith in Canada.

The personnel of the service will be provided by officers of any arm appointed to the service, by reason of special qualifications.

### *Postal Service*

Like your post office and postal service in every day life, the postal service provides transportation of mails, including parcels, boxes and letters.

The unit is known as the Canadian Postal Corps.

### *Printing and Stationery Service*

Besides supplying all the forms, stationery and office equipment and supplies, this service despatches all general and routine army orders.

### *Supply and Transport Service*

This service supplies petrol and lubricants for the motor vehicles; and also food, fuel for light; and billets, disinfectants and medical comforts to the forces in the field. The supply, maintenance and inspection of all mechanical transport driven by Royal Canadian Army Service Corps personnel.

### *Transportation Service*

Under this service all necessary railways, docks, and inland water transport are requisitioned. Oddly enough, the personnel are provided by the Royal Canadian Engineers.

### *Works Service*

The works service is the equivalent of your neighbouring works service in any sizeable community. They build buildings, construct roads and bridges and operate electric pumping stations and power stations. Again the personnel is provided by the Royal Canadian Engineers.

### *Engineer Stores Service*

This service is the wholesale that supplies the works services with its equipment. Workshops for the conditioning and assembling of stores are also provided.

Since this is an engineering service the R.C.E. supply the personnel.

### **Controlled by the M.G.O's. Branch**

#### *Ordnance Service*

This service is responsible for the supply and maintenance of ordnance stores, the weapons, and ammunitions, the everything from boots to bolts, blankets to balloons required by the army. It is the Departmental Store and is the responsibility of the Royal Canadian Ordnance Corps.

#### *The Auxiliary Services*

The auxiliary services group for administrative purposes all those services which provide creature comforts, education, recreation, and morale maintaining, etc., organizations such as the Y.M.C.A., the Chez Nous de Soldat, the Knights of Columbus, some branches of the Red Cross, the C.W.A.C. and the Salvation Army.

These services maintain and operate canteens, soldiers rests, give extra clothing, and make available at a minimum of cash to the soldier such articles as note-paper, magazines, cigarettes, tooth paste, razor blades, etc., and food, always an important commodity, is also made available through these services. Chocolate bars, coffee and soft drinks are always available. To prevent the overlapping or duplication of these services areas are allotted to each so that where a Salvation Army Recreation programme is in operation the Y.M.C.A. will not be found. Much of the sports and recreation organizations work is left by units to these Auxiliary Services.

#### 4. EVOLUTION OF TACTICS

##### (Grade XII)

The battle of Stamford Bridge of the 25th of September, 1066, where King Harold had defeated and slain, Tostig and Harold Hadrada was the last example of an earlier type of warfare. At Stamford Bridge the two hosts met in the old fashion of Dane and English war, all meeting face to face on foot and after a bloody struggle, in which they hacked and hewed at each other across the shield wall, the invaders were practically annihilated.

The battle of Hastings was the last great example of the use of the old infantry tactics against the now fully developed cavalry of feudalism. Harold, who had seen service in the Norman rank, was familiar with the Norman tactics and knew that the danger to the English lay in the rush of the duke's horse and in the long range shooting of the duke's archers. To guard against these perils Harold took up his position on a hill at Senlac and instructed his men to build a fence or breastwork of crossed logs.

When the hour of battle drew near the Normans marshalled their forces in three divisions of horse and infantry. Each division was made up of three lines, in the front were archers and crossbow men, in the center foot soldiers armed with pike and sword and in the rear the mailed and mounted knights. William's plan, so far as can be judged, was to harass the English with the archery, to seriously attack and breach the breastwork with the heavy infantry and to deliver the coup de grace by the force of horsemen forming the third line.

Harold's force, having but few archers, was unable to go into action and the archers and the infantrymen continued their advance until they were within the range of the English missiles at which time they were met by a veritable storm of spears, axes and even cast stones. The first and second lines reeled back from the English wall and the armoured knights rode in to deliver their charge. Into the English mass, however, they could not break. The defenders' axes felled horses, lopped off limbs and heads and penetrated the Norman armour. Never had the Normans met with such resistance. After a short space the left wing recoiled and fled in wild disorder. Unfortunately for King Harold's cause, a great number of shire-levies on his right wing poured down the hill after the retreating Normans and were caught outside their protective work where they were soon ridden down and slaughtered. This inspired the duke to try the stratagem of a feigned flight with the result that another section of Harold's line was lured to its destruction.

The fight continued all day, the English being harassed by showers of arrows and incessant pounding by the Norman cavalry. Desperate as was their plight they fought on and towards evening William ordered his archers to fire on a high trajectory so that rear as well as front ranks would be affected. A chance arrow struck Harold in the eye and as he fell the English faltered and, after a hundred ineffective charges, a band of knights forced their way to the king's standard and hacked Harold to pieces as he lay wounded on the ground.

##### The Use of Muskets

At the start of the Civil War in England, infantry companies were composed of 120 men, two-thirds of

whom were musketeers and one-third pikemen. The musketeers were armed with matchlock muskets and to fire was a business requiring much careful preparation, two minutes per round being considered "rapid" fire. In order to maintain continuity of fire various plans were tried such as that of drawing the musketeers up six deep, each line firing in turn and then dropping to the rear to reload but this soon had to be dropped as it was quickly apparent that the competition to drop to the rear was keener than the desire to obtain an accurate aim. The usual battle procedure was for the opposing forces to get within musket range of each other and then the musketeers of both sides would fire off all their ammunition after which the lines would close in, pikes would be locked, musketeers would draw their swords or use their musket butts and not infrequently the battle would end in what was a very close parallel to an "all-in" wrestling match.

The matchlock musket was superseded by the flintlock which came into general use by 1675. This change halved the time for loading so that a man could fire two shots a minute, thus increasing fire-power and, consequently, the importance of the infantry. Further, the introduction of the bayonet changed the organization of the infantry in battle. When pikemen were used it had been the practise to place the "pikes" in the center and the "shot" on the flanks, most of the hand-to-hand fighting being done by the former. But, as the importance of missile power over shock power was realized the proportion of "shots" to "pikes" was increased. Thus, in 1600 there was one shot to four pikes, in the New Model Army it was one and by 1670 it was five shots to one pike.

The most important changes in the seventeenth century

were those introduced by the great Gustavus Adolphus of Sweden. He realized that smaller formations would give greater flexibility and so he replaced the old units of 3 or 4 thousand men by battalions of four or five hundred. His introduction of platoons or sub-divisions of the company was also directed to the same end and, by a special drill, to secure greater continuity of fire. These changes were gradually adopted by all the nations of Western Europe as were his methods of enfilade fire, shock action, rapid marches and quick manoeuvres.

In many ways war was still a very gentlemanly pursuit. Means of travel and supply were not organized with the thoroughness of a later day and armies, on active service, lived insofar as possible off the country. Such being the case the first thought of a prudent commander was to choose a theater of war where his men and horses could find food and to hold the area by occupying fortresses at strategic points. Pitched battles were always avoided, unless there were odds of overwhelming proportion, as they were expensive in men and material, both difficult to replace. A wet summer and poor crops would invariably bring operations to a speedy close on both sides. With the advent of winter armies retired into their fortresses and all operations would be suspended for some months. There were few roads worthy of the name and commanders tried to conduct campaigns along the rivers and canals which could be used for movement of supplies and troops. Every important junction of rivers in such an aera was therefore the site of a fortress and campaigns were a succession of sieges rather than battles. This appealed to most of the commanders of the time for it simplified supply arrangements and enabled both sides to enjoy some of the com-

forts of life along with the excitement and adventure of war.

Pitt's conduct of the Seven Years War, 1756-1763, stamps him, in a true sense, as a very competent Minister of National Defence. The British victory was due to an appreciation of need for co-ordinating our military and naval forces which, Pitt, like Marlborough, thoroughly understood and applied. By his drive the Regular Army was increased to 150,000 men. Men of merit were promoted and one at least of these, James Wolfe, possessed an original mind. Indeed, in his views on fire power and light equipment, he was a forerunner of Sir John Moore. His use of a formation in two ranks at the battle of Quebec was later taught at Shorncliffe Camp by Moore and was an innovation which gave Wellington a great tactical advantage in the Peninsular War. As has been related, with the harquebus it was necessary, in order to maintain continuous fire, to marshal several ranks which fired in succession. With the improvement in arms this was gradually reduced until in Wolfe's time only three ranks were used.

#### The Change to the Rifle

While the war of the American Revolution was not a successful campaign from the British point of view it did have great importance as the beginning of new developments. As has been stated, the most effective element in the American forces was the backwoods riflemen. These were unsuited to the traditional form of fighting in the open since the long hunter's rifle was much slower to load than the smooth bore musket but these weapons had a much longer range and were extremely accurate. To meet them we began to raise light

companies from battalions, composed of men specially selected and trained. Although these special formations were disbanded at the end of the war, they were a signpost of things to come, the discontinuance of solid formations and the succession of ponderous volleys.

At Maida, near Naples, in 1806 a British force under Major General Sir John Stuart was attacked by a somewhat superior French Army. The French, confident of success, attacked in their usual formations of dense columns on a narrow frontage, an array which had seldom failed to sweep all before it against Continental opponents. The British on the other hand were drawn up two deep, with every musket capable of bringing fire to bear and, as the French approached, poured in crashing volleys and then charged with the bayonet. The effect was overwhelming, the British lost between two and three hundred men while the French were routed with the loss of over two thousand. The action had no practical results as the British shortly afterwards withdrew due to the non-co-operation of the Neapolitans; but none the less it pointed the way to Wellington's subsequent triumphs in Spain. The British had learned that their tactics were definitely superior to those of the French and that in any stand-up fight they might, with reasonable odds, fairly expect a victory. The confidence thus gained was never afterwards lost, and the line went into action against the column knowing just what to expect and confident of success.

Wellington has been considered by many to be a defensive fighter. This is an incorrect assessment of his technique, no one attacked with greater skill and rapidity when a chance afforded, but it must be remembered that he was almost always outnumbered and had the greatest

difficulty in replacing losses due to casualties. He therefore always tried to get his opponent to make the first move, relying on the steadiness of his men and on a more flexible system of tactics to win the advantage. He aimed, if possible to give battle in a position with a steep slope in front and a gentle one behind. The French always delivered their attack in close column, which resulted in but few men being able to fire their muskets except in the air, which they frequently did to hearten themselves. Wellington would put his skirmishers near the bottom of the hill, his main body close to the crest and his reserves out of sight on the reverse slope, in this formation he would await the French attack. It would duly arrive, the skirmishers would be driven back until within close range of the ominously silent red-clad British main body. Then the order would be given and the volley would ring out which, as every soldier could pick a target, would melt away the head of the French columns. The enemy would try in vain to deploy in the face of the withering fire, the columns would recoil and the British would then take after them with the bayonet, hunting them to the foot of the slope, but only so far and then returning to their original position. To this plan of battle which was all Wellington's own, the French never developed an adequate reply.

Following the defeat of Napoleon at Waterloo the wars in which Britain was engaged for the next eighty years were, with the exception of the campaign in the Crimean Peninsula, mostly punitive expeditions and of too varied a nature to consider here. The war in South Africa, however, again brought about changes in battle procedure which differed from anything heretofore undertaken.

### Guerilla Warfare

The chief difficulty was in bringing the Boers to a decisive action, for which they were poorly equipped. The area in which the operations took place was as large as pre-war France and Germany combined and lines of communication were, therefore, enormously long, the two bases at Cape Town and Durban being 1,000 miles apart. Added to all these difficulties there was the natural ability of the Boer as a fighter. He was an excellent, well mounted, horseman and was very mobile and a good marksman. The smokeless powder which he used made him still more elusive in a country where he knew how to make the best use of every vestige of concealment. The war, at the beginning, went rather badly for the British and it was not until they had learned the lesson of cover from view and worked out a solution to combat the guerrilla tactics used by the Boers that conditions improved.

Kitchener's problem, when he assumed command in 1901, was therefore threefold. He had to protect the British lines of communication, he had to deprive the Boers of the resources required to carry on the war and he had to harry them incessantly so that they would lose heart and give up the fight. To accomplish the first he established block-houses. Each was garrisoned by an N.C.O. and ten men. They were sited within rifle shot of each other and were linked up by barbed wire. The war in South Africa established barbed wire as a military weapon; it was the cheapest form of fencing in the country and was very plentiful. Begun to protect the railroads the blockhouse system spread across the country until the whole area of warfare was a series of vast enclosures.

The second measure introduced by Kitchener was the building of concentration camps to which all of the white population who were secretly arming and supplying the soldiers, were brought. His third expedient was the development of mobile columns commanded by picked officers and, when possible, accompanied by at least two guns. The British had learned a good deal by now and their columns, if not always successful were a constant menace to the Boers and, on the 31st of May, 1942, the Boer delegates signified their acceptance of the British terms of peace.

The tactics of the First Great War are too fresh in minds of most to require much elaboration here. The war began with a series of tactical manoeuvres but after the allied armies held on the Marne and the Germans were forced to withdraw to the Aisne the latter dug in along a trench line which soon extended from the North Sea to Switzerland. As time passed both sides reinforced their trench systems to a degree which made it impossible to deliver a successful attack without tremendous artillery preparation which churned the ground into such a state that rapid movement was virtually impossible. As a result there was developed a new tactic known as a "war of attrition" in which the opposing sides, by a constant series of minor offensives endeavoured to wear down the enemy and bring him to the breaking point. Thus the warfare of movement had passed out of the picture, not to be reintroduced, on any appreciable scale, until the Second Great War; when the development of armoured fighting vehicles, replacing the old horse units, again developed major tactical plans based on mobility and surprise.

## THE ORGANIZATION OF AN INFANTRY BATTALION

(Grade XII)

Infantry is the arm which in the end wins battles.

The co-operation of the other arms is necessary, but without infantry they cannot defeat the enemy.

Weapons consist of: Rifle, Bayonet, L.M.G., S.M.G., Mortar, Anti-Tank Gun, H.E. Grenades and Revolver.

With these the infantry can:

- (i) Develop a large volume of fire rapidly and in any direction.
- (ii) Combine Fire and Movement.
- (iii) Engage enemy at a distance or hand to hand.

Movement is slow (rate of march  $2\frac{1}{2}$  to 3 miles per hour).

Distance covered small (average 15 miles per day).

During movement or when without cover very vulnerable.

Can move over almost any ground by day or night.

Can take cover more rapidly than other arms (strong in defence).

Require superiority of fire.

When roads permit can be moved rapidly and brought fresh into action at distant points.

The main object of infantry is to close with the enemy and destroy him; all other operations are merely preliminaries.

For information regarding infantry weapons see Canadian Army Training Pamphlet No. 1. Here may be found the construction, operation and tactical purpose of these weapons.



yards. Twenty-five of these are available for the battalion protection.

If attacked from the air every Bren gun may be brought into action together with intelligent rifle fire at close range. The infantryman no longer scuttles for cover like a scared rabbit when strafed by low flying planes. He continues with his task taking what cover he can and fights back. It has been proven that the panic effect of machine gunning from air is much greater than actual loss suffered. For work against air craft every battalion has four twin mounted Bren Guns on a vehicle with which very accurate results are obtained.

It is the duty of any body of troops to be able to protect itself from all sides and from the air when advancing or when halted. This type of protection is called "Perimeter Defence".

For close assault work the Rifle Grenade and several kinds of hand grenades are used. The hand grenades up to thirty or thirty-five yards and the rifle grenade up to 200 yards.

For hand to hand fighting the officer carries a pistol of calibre .38 or .455. This weapon is used at point blank range fired from the hip. Each section leader has a sub-machine gun which when properly handled has tremendous power and is accurate up to fifty yards. It is .450 calibre and capable of very rapid fire. It is frequently fired from the hip while advancing.

The personnel weapon for six hundred and sixty men in the battalion is the rifle. With a magazine holding ten rounds it is capable of firing accurately over one thousand yards. A tremendous fire power can be brought to bear upon an advancing enemy at long range and for close range the bayonet is attached for mopping up.

Thus it may be seen that a well trained completely equipped rifle battalion has a strong striking power and this when coupled with its greatly increased mobility makes it the unit which eventually takes and occupies any disputed territory. Each platoon has its own platoon truck which carries all extra equipment for the platoon including the major part of the kit of the men in the platoon. For decisive action excess kit may be cached and the vehicle used to hop the men rapidly from place to place. The truck is equipped with four wheel drive and high axle clearance and can make its way independent of roads across country.

For the special mechanized equipment see plate on Infantry Battalion.

Headquarters company is composed of six specialized platoons as shown.

A. *Signal Platoon.* Responsible for intercommunication with the forward fighting area and linked up with the brigade.

B. *Anti-Aircraft Platoon.* Mounts four twin Bren guns for protection of the battalion when at rest and on the move.

C. *Mortar Platoon.* Generally stationed at the battalion headquarters. The C.O. uses the 3" Mortars as his Artillery.

D. *Carrier Platoon.* The thirteen carriers are used for recce. work and to drop Bren crews for flank protection. It keeps them supplied with ammunition.

E. *Pioneer Platoon.* This is a group of tradesmen. They do elementary engineering—lay land mines, build road blocks, attend to decontamination of gas tainted areas, lay wire obstacles and similar tasks.

F. *Administrative Platoon.* The business of keeping supply, transport and daily routine moving is handled here.

### PAY AND ALLOWANCES

(Grade XII)

#### Non Commissioned Ranks

Private	\$1.30 per day
Corporal	\$1.50 per day
Sergeant	\$1.70 per day
Warrant Officer, Class I	\$4.20 per day

The Soldier is provided with quarters, rations, free medical attention and dental treatment. When not living in government quarters he receives \$1.00 per day subsistence allowance. His pay is equivalent to \$2.30 per day.

The wife of a Private, Lance-Corporal, Corporal or Sergeant receives a dependents' allowance of \$35.00 per month. His wife receives \$12.00 per month for each of two children; \$9.00 per month for the third; \$6.00 per month for the fourth. No allowance may be claimed in the case of more than four children or for boys over 16 years and girls over 17 years of age.

A soldier who is the sole support of his mother may claim \$20.00 per month for her.

A tradesman who enters the army must first complete his initial military training. He may then be given a chance to prove his ability by a trade test. He will then have an excellent opportunity to work at his trade when and as his services are needed. There are approximately 175 different kinds of tradesmen and helpers used by the

army. According to his technical qualifications he will receive trade pay depending upon the category in which he is placed. The bonuses will run:

Group A	75 cents per day
Group B	50 cents per day
Group C	25 cents per day

### DUTIES AND RANKS IN FULL

1. Ranks in the Service compose four main groups:—

- (a) Commissioned ranks, e.g. Lieut., Capt., Major, etc.
- (b) Warrant ranks, e.g. Sergeant-Major.
- (c) Non-commissioned ranks, e.g. Corporal, Sergeant.
- (d) Privates:—This term includes buglers, drummers, drivers, signallers, bandsmen, riflemen, gunners, etc.

2. Commissioned rank is granted by the King and entitles the holder to act as an Officer in His Majesty's Forces. An Officer is entitled to be saluted by Junior Officers and all other ranks. He is addressed as "Sir" by his juniors and referred to by his rank and appointment. Lieutenants are referred to as "Mister". The commission in Canada is signed by the Minister of National Defence and counter-signed by the Governor-General.

Commissioned ranks in an Infantry or M.G. Battalion are as follows in order of seniority:—

- (a) Lieutenant Colonel —Lt.-Col.
- (b) Major —Maj.
- (c) Captain —Capt.
- (d) Lieutenant —Lieut. or Lt.
- (e) 2nd Lieutenant —2/Lt.

The Lt.-Col., as the senior officer, is also known as the Commanding Officer (C.O.I.).

The following appointments are found in the commissioned ranks of a unit.

- |                          |        |
|--------------------------|--------|
| (a) Second in Command    | 2 i/c. |
| (b) Adjutant             | —Adj.  |
| (c) Intelligence Officer | —I.O.  |
| (d) Quartermaster        | —Q.M.  |
| (e) Transport Officer    | —T.O.  |

The 2nd in command is the senior Major. The Adjutant and Q.M. may be of the rank of Lt. or Capt.

### NON-COMMISSIONED RANKS

#### 1. Warrant Officers

Warrant Officers are of two classes: Class I and II. The former is promoted to his rank by the authority of the Minister of National Defence after recommendation by the C.O. Warrant Officers, Class II, are promoted to rank by their C.O. All Warrant Officers are addressed as "Sir" by their juniors. Warrant Officers, Class I, are also referred to by all ranks by their surnames with the prefix "Mister".

W.O's. I in a unit are:—

- The Regimental Sergeant Major (R.S.M).
- The Bandmaster (in some units).

W.O's. II in a unit are:—

- The Regimental Quartermaster Sergeant—(R.Q.M.S.).
- The Company Sergeant Major—(C.S.M.).

#### 2. Non-Commissioned Officers

N.C's are promoted to their rank by the C.O. and hold their rank during his pleasure. In an Infantry unit they are as follows:—

- |                                    |               |
|------------------------------------|---------------|
| (a) Staff Sergeant                 | —S/Sgt.       |
| (b) Company Quartermaster Sergeant | —C.Q.M.S.     |
| (c) Sergeant                       | —Sgt.         |
| (d) Corporal, Lance Corporal       | —Cpl., L/Cpl. |

### OFFICERS

1. Officers will invariably bear in mind that the honour of the Canadian Army generally and their Regiment in particular is in their keeping and must be upheld at all times by their example and conduct.

2. The chief interest of every officer should be the efficiency and contentment of his subordinates. He should study the characters of his men and endeavour to gain a thorough and sympathetic understanding of their point of view. A leader must have the confidence of his men.

3. Officers will foster Esprit de Corps by all the means at their disposal. It is the pride in his unit which makes a man unwilling to bring discredit on it and ready at need to sacrifice himself for its honour. Games as well as military efficiency are an effective means to this end.

4. Officers will impress upon their subordinates the importance of the salute. It is a military method of greeting a superior, not a servile act. It is an outward sign of the inward spirit of discipline and respect for superiors. The general tone and feeling in a unit is indicated as much by the manner in which the other ranks salute and the *Officers return the salute* as by any other action. The senior officer present will return salutes whether he is in uniform or not.

#### 5. *The Commanding Officer.*

The C.O. is the senior officer and the commander of the Regiment. On him has been placed the responsibility of the training, discipline and administration of the unit. His task can be made much easier and pleasant by the co-operation of all ranks and the manner in which they perform their respective duties. The authority of the C.O. is paramount and his decision on all questions is final.

#### 6. *The Adjutant*

The Adjutant acts as a staff officer to the C.O. and all orders and all orders and instructions given by him are taken as given by the

C.O. Regimental Orders are drafted by him for the C.O.'s approval. The Adjutant signs these orders. His special province is the Regtl. Orderly Room: he is in charge of all records, files and documents. All correspondence requiring the C.O.'s signature must be first passed through him.

Directly under him are Orderly Room Clerks, the R.S.M., drill instructors, and recruits.

#### 7. *The Quartermaster*

The Q.M. is responsible to the C.O. for all matters concerning supplies, clothing, equipment, arms and ammunition, and other stores issued to the Regiment.

He is also responsible for the layout of camps, loading and unloading of baggage and camp sanitation.

#### 8. *A Subaltern Officer is a 2nd Lieutenant or Lieutenant.*

Subalterns will—

- (a) Invariably show marked respect to their superiors.
- (b) Be responsible for the discipline and general efficiency of their platoons.
- (c) Assist their Coy. Commanders in company matters and report irregularities or suggested improvements.
- (d) Understudy their Coy. 2nd in command in his routine duties.
- (e) Attend all company office and orderly room parades in order to gain experience in the application of military law and administration.
- (f) Inspect barrack rooms or tent lines daily.
- (g) Inspect men's bedding, equipment, arms, clothing, etc., to see that these are in good repair, clean, and arranged according to regimental custom. Irregularities must be checked.  
Those of a serious nature will be reported to the company commander.
- (h) Provide themselves with nominal rolls of their platoons and make themselves familiar with the character, disposition, qualifications, etc., of their men.
- (i) Join in company and platoon sporting activities.
- (j) On the line of march, in camp and when training be responsible for preserving the health and comfort of their men, particularly with regard to the care of feet, clothing, housing and feeding. A good officer will always attend to his men before considering himself.

### DAILY ROUTINE

**Reveille**, is a Bugle Call sounded at sunrise, or some stated hour when troops will rise.

**Retreat**, is a Bugle Call sounded at sunset, or some stated hour when the flag is lowered and after which no compliments will be paid by guards.

**Tattoo**, is that half hour which elapses between First and Last Post, after which all men out without a pass are reported absent.

**First Post**—Bugle call sounded at 2130 Hrs.

**Last Post**—Bugle call sounded at 2200 Hrs.

### GUARDS

1. There is no situation in which soldiers are so conspicuously placed as when upon guard; they are then exposed to constant observation and the honour and character of the corps becomes, in consequence more than ever in the keeping of the individual, be his rank ever so humble.

Everyone is aware of the impression made upon his mind when he sees reliefs marching irregularly, sentries lounging lazily upon their posts, the men lying about upon the benches, their jackets or blouses half-buttoned, accoutrements disarranged, and their caps carelessly put on; he never expects to find that such slovens belong to a battalion in a good state of discipline.

2. Guards should turn out at Reveille, Retreat and Tattoo, and be inspected by the Officer or N.C.O. commanding them.

3. Officers, N.C.O.'s or soldiers should not on any account take off their clothes or accoutrements while on guard, but the wearing of the greatcoat in the guard room while optional, must be consistent.

4. No man on the guard should ever be seen smoking outside the guard room, or in any head-dress other than that in which the guard was mounted.

5. No soldier of a guard should be employed in holding a horn or in any other way unconnected with the duties of the guard.

6. Should a man be taken ill on guard, a report is immediately to be sent to the orderly officer, who at once sees that one of the waiting men is sent to relieve him.

7. In case of fire or other alarm the guard will turn out and remain under arms until otherwise directed.

8. When an officer visits sentries, he should be accompanied by a non-commissioned officer of the guard, and when a non-commissioned officer visits his sentries, he likewise takes a man or file of men.

9. The meals of all on guard should be brought to them, but if at too great a distance, arrangements made for them being taken, or sent and cooked in the guard-room.

10. Guards, on being relieved, should march to their battalion parades and be dismissed, the commander, reporting his guard to the Adjutant or orderly officer.

11. A bugler should always mount and remain with the quarter or main guard.

## NAVIGATION:

### AIRFRAMES:

### THEORY OF LIGHT:

### AIRMANSHIP

### (Grade XII)

The following sections are designed to clear up in advance any preconceived ideas, on the part of the student, about aviation and what it entails. Aviation is progressing at such a rate, that it is obviously impossible to do more, in the limited space at our disposal, than give information that will serve as a guide to students who are contemplating either joining the R.C.A.F., or working in some branch of the aviation industry.

The following pages have been arranged by experienced instructors, to remedy the difficulties of teaching students who reach the Elementary Training Schools with no very definite idea of how to apply the knowledge they have received during school years. This, we believe, not only provides the student with basic and useful information of the fundamentals of aviation, but provides also, the basic information that will make any defence training practical. Things that may seem unimportant now, have often to be recalled without time for review, when the student receives instruction at Training Schools as his training advances. The prospective R.C.A.F. student, therefore, has to have a broad understanding of such things as engines, theory of flight, meteorology, and navigation. Since he is dealing with aircraft that fly at

speeds of several miles per minute, and have been developed to a high degree of efficiency, something above average will be expected of him.

This expectation will not die with the conclusion of the war. For, as a Canadian, he is living in a country that ranks first in the world in air transportation, first in the world in training, and holds the record of turning out a majority of the most capable pilots. The work in the following pages deals only with the fundamentals of airmanship, and detailed study must be made elsewhere, as the need arises.