THE THREE WEAPONS

Napoleonic armies have three components: infantry, cavalry and artillery. This chapter briefly presents the main characteristics of these three branches to give an overview of how a battle was fought at that time.

THE INFANTRY

Infantry is the main component of all armies and generally represents 80% of the total number of troops. It is the so-called *Queen of Battles* because it is the only weapon capable of winning victory on its own. Cavalry and artillery are complements that allow it to increase its effectiveness.

Organization

In all nations, the infantry is organized into regiments, each comprising one or more battalions (usually 2 or 3). The battalion is the basic tactical unit on the battlefield and usually consists of between 600 and 800 men. It is not uncommon for a regiment to have its battalions scattered over several theatres of operations. One of the battalions may be a depot battalion that is responsible for training recruits. It is then generally not engaged on the battlefield except in the event of a shortage of troops.

The regiments are grouped into brigades and divisions. Two or three regiments form a brigade and two or three brigades form a division. After 1808, the Prussians did not use divisions but only brigades. Nevertheless, at that time, a Prussian brigade was the size of a division among other nations.

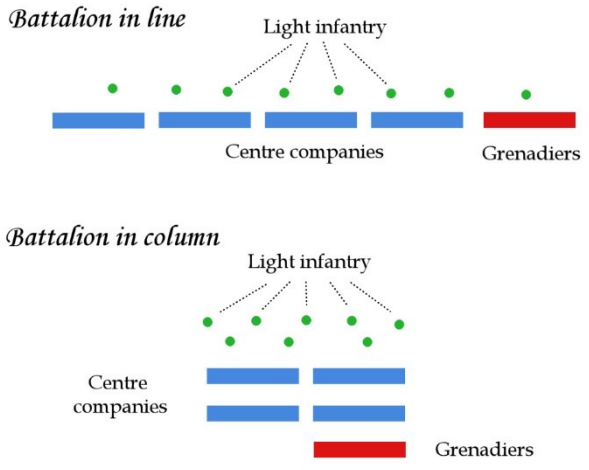
The French added a new level to this organization: the army corps. An army corps consists of one or more infantry divisions, a brigade or a division of light cavalry, an artillery reserve, a service train, ambulances, bridging equipment, and engineers. It is a small army in miniature that can act independently. The organization into corps gives the French armies a significant advantage by allowing rapid manoeuvres. The corps manoeuvre independently and gather for major battles. This organization will gradually be copied by all other nations.

The Battalion

A battalion is composed of 4 to 10 companies depending on the nations and period. Each company consisted of between 50 and 200 men with an average strength of 500 to 800 men per battalion (the Austrians could go up to 1200). Among these companies there are usually one or two elite companies with a distinctive uniform.

The first elite company was the grenadier company. Grenadiers are selected from the largest and most valiant soldiers. They are usually placed in the rear and provide moral support to the rest of the battalion. The second elite company is the light company made up of skirmishers, voltigeurs or jagers according to the different names they are given. These skirmishers are chosen from among the smallest soldiers, the most agile and the best shooters. They are usually deployed in scattered formation at the front of the battalion.

The majority of the battalion's soldiers constitute what are known as the companies of the centre. Indeed, when a battalion deploys in order of battle, the grenadier company is deployed to the right and the light company to the left. Light infantry can also be deployed as skirmishers in front of the battalion. Sometimes elite companies are detached and grouped into grenadier or light battalions.



Light infantry

Most of the infantry is made up of line infantry, but all nations also have specialized light infantry units. Light infantry is not less equipped infantry but rather a better-quality infantry. It is capable of fighting like the line infantry but also of deploying entirely as skirmishers. This dispersed training gives them an advantage in difficult terrain and villages. Its role is to scout and cover the advance of the line troops and it is often in the vanguard. As we will see, skirmishers play a very important role.

The skirmishers

All nations employ skirmishers, but France does so on a larger scale. The use of troops in dispersed formation requires a spirit of initiative and loyalty that soldiers of other nations did not possess, at least at the beginning of the period. In the Revolutionary Wars, volunteer battalions are not trained to fight in line. Also, some of them were deployed as skirmishers and sent in advance of the line troops to harass the enemy by firing and disorganizing them. The other battalions are formed into attack columns and ready to strike the enemy when he is disorganized.

While the infantry in close order presented a compact formation, the skirmishers were scattered and used the obstacles on the ground for cover. For line infantry, firing at such dispersed targets is generally ineffective. In addition, after a salvo, the unit ends up with discharged weapons, at the mercy of a cavalry charge. For skirmishers, however, the task is much easier. Even if the musket fire is inaccurate, the size of the target (a full battalion) makes it almost impossible to miss. The English *riflemen* specialize in targeting generally visible officers, which further disrupts the enemy.

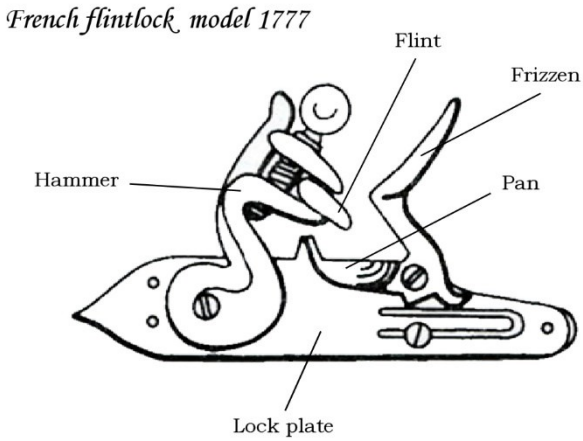
The unit that is able to deploy the most numerous and effective skirmishers therefore has a significant advantage over the opponent. This was one of the reasons for the French superiority, at least at the beginning of the period. The other nations were gradually copying French tactics, although not always with great efficiency, except the English, who also had good skirmishers.

Skirmishers are nevertheless very vulnerable to cavalry, which can easily sweep them away. A unit will therefore not deploy its skirmishers too close to the enemy cavalry unless they are sheltered in buildings or difficult terrain or can take refuge quickly within the formed line.

Armament

The musket

All soldiers are armed with a musket, which is a very inaccurate smoothbore firearm. At 60 meters, a shooter can hope to hit a target of human size but beyond 100 meters the shot becomes very random. It is not uncommon for the gun to fail to go off (about one in six times) which requires cleaning the musket before reloading it. Loading the musket is a complex operation and a soldier can only fire 2 to 3 shots per minute when well trained. Soldiers carry between 40 and 60 prefabricated cartridges containing a dose of powder and a lead bullet in a paper envelope.



Flintlock: The firing of the musket is ensured by a flintlock with the following mechanism. A piece of flint is attached to the hammer. When the shooter pulls the trigger, the flint rubs against an iron lever called the *Frizzen*. This lifts up the pan and uncovers the basin containing powder. The friction of the flint on the *Frizzen* causes a spark that ignites the powder. A small touch hole connects the pan to the barrel and a spark ignites the powder in the barrel, which propels the bullet creating a large cloud of smoke.

At the time, the lack of precision of the musket was not considered a problem. Soldiers were not trained to aim. What they are asked to do is to fire as quickly as possible at the enemy, who has a compact mass that is easy to hit. It is the volume of fire that is preferred over the accuracy of the shot. By comparing the number of cartridges consumed in a battle with the losses inflicted on the enemy, we arrive at a frightening consumption of 400 to 700 cartridges to inflict a loss! This means the vast majority of shots do not hit their target. Despite this, it is the musket that inflicts the most casualties: about 70 to 80% of the casualties inflicted against 15 to 20% for artillery. The bayonet is responsible for only about 5% of the losses.

The rifled musket

Some light troops are equipped with rifles. This is the case for most *Jagers* (i.e. skirmishers in German) as well as British *Rifles.* The rifled musket has a barrel with spiral grooves to rotate the ball. This gives it a much better accuracy and allows it to accurately hit a target at 150 or 200 meters. The rifle is loaded like a musket, but the ball must be forced into the barrel with a ramrod. This implies a lower firing rate, which means that the rifle is reserved for skirmishers. Sometimes only some of a company's riflemen are equipped with rifles, the others having a musket.

The bayonet

The bayonet is a blade with a triangular cross-section of 30 to 40 cm which is fixed by a ring socket at the end of the musket barrel. It does not prevent firing but hinders reloading. It allows the soldier to defend himself against the cavalry and to have a melee weapon. Only troops with high morale risk charging with unloaded muskets. Most charges are made against a disorganized or demoralized enemy who will easily be put on the run. The bayonet is more a psychological weapon than a weapon of mass destruction. A bayonet charge rarely ends in a furious melee, rather it ends with the opponent fleeing or repelling the attacker with his fire.

Formations

The infantry manoeuvres in compact masses to maintain discipline, deliver salvo fire and protect themselves from the cavalry. To do this, it uses well-defined formations. The three main formations are the line, the column and the square.

The line

The companies of the battalion are arranged next to each other in a single line. It is the formation that maximizes fire and is favoured by most nations at the beginning of the period. The soldiers are placed in three ranks, close together, each man occupying about 60 cm. A battalion of 600 soldiers in three ranks therefore occupies a front of about 120 metres. To shoot, the first rank theoretically puts one knee on the ground and the second rank shoots above the first. The third rank is primarily used to make up for losses. Theoretically, he is supposed to exchange his loaded weapon with the second rank once it has fired. This tactic is rarely applied because soldiers prefer to keep their weapons for shooting. The third rank is therefore not very effective and sometimes even dangerous if the soldiers are poorly trained. Sometimes soldiers are startled or even wounded by the fire of those behind them, especially when it comes to conscripts who are not used to fighting.

Battle of Quatre Bras - Lady Butler

The depth of the line in two or three ranks caused great controversy among the theorists of the time. Most nations prefer a three-rank deployment that provides a reserve to cover losses. The British deployed their infantry in only two ranks, which allowed them to have more shooters and deliver a deadly fire. Moreover, it allows them to have a line as long as their opponent despite a smaller number of troops.

The column

The column is a deep formation in several ranks. It is a formation that allows faster movement than the line but which because of its depth is more vulnerable to artillery fire. A column being less wide than a line, it delivers a less efficient fire. Column formation is the preferred formation for bayonet attack.

There are several types of columns. The column by company is a column where the battalion companies are deployed one behind the other. In the column by divisions the companies are deployed in pairs. Note that the term division here means a group of two companies. It should not be confused with the division that brings together several brigades.

The marching column is formed by platoons (i.e. half-companies) marching one behind the other. It is not a combat formation and is only used for travel while at a great distance from the enemy.

Battle of Kulm - Carl Röchling

The square

Both the column and the line are vulnerable formations to cavalry because they can only deliver defensive fire on their front. A battalion charged in the flank or rear by cavalry is usually beaten. To counter the threat, the infantry may form a square.

A square is a formation in which companies or divisions (in the sense of 2 companies) deploy in such a way as to form a quadrilateral. The officers and the flag are placed in the free space in the centre of the square. This space is also used to accommodate the wounded. The first rank puts a knee down pointing its bayonet at the enemy, the other ranks can fire if the cavalry approaches.

A square is practically invulnerable to the cavalry, the horses refuse to impale themselves on the bayonets held in front of them. On the other hand, the square is very vulnerable to artillery fire and moves slowly. It is not suitable for fighting against infantry whether they are in a line or in a column.

The square is a complex formation to be taken especially for poorly trained troops. To allow the infantry to deploy more quickly, a solid square (or closed column formation) is also used. The solid square is formed from a column. Soldiers huddled together and those from the rear and sides turned to face the enemy. It is a quicker formation to take but less effective than the classic square.

It may happen that several battalions form a single large square. This is called a brigade or division square. Each side of the quadrilateral is formed by one or more battalions in line. The French used this tactic at the Battle of the Pyramids against the Mamluks by reinforcing the corners of the squares with cannons.

Infantry in combat

Infantry usually arrive on the battlefield in column. It then deploys in line and moves towards the opponent. The skirmishers are deployed in front of the unit and begin to harass the enemy. To engage the enemy, there are essentially two tactics.

The fire

The infantry advanced to a good distance (between 50 and 100 meters) and opened fire on the opponent. The exchange of fire can be brief or last a few or even tens of minutes, until the soldiers have fired all their cartridges. After the first shots, the smoke and disorder make the shots very random. The exchange of fire continues until one of the opponents breaks down or its strength is reduced by casualties. In addition to the dead and wounded, many soldiers were gradually leaving the ranks to accompany the wounded or to fetch ammunition, all excuses for leaving the line of fire are used. Losses are often severe in this type of confrontation despite the very low accuracy of the shot.

The bayonet charges

The soldiers advanced, bayonets on their muskets, with a determined march towards the opponent to push him and force him to leave his position. The latter has the opportunity to fire two or three salvoes to stop the attacker. The closer the defender waits for the attacker to approach, the more likely he is to fire a lethal salvo. But for that you need nerves of steel and often the volley is fired from too far away and is then not very effective. The defender must then hurry to reload his musket with the threat of bayonets advancing. Some soldiers may then prefer to run away before being skewered. If the salvo is fired at very close range and inflicts many casualties, the attacker may then hesitate and start retreating. The confrontation here therefore pits the defender's morale and firepower against the attacker's resolution.

Facing the cavalry

An orderly infantry with safe flanks normally does not fear cavalry. If it delivers an effective volley, it can stop a charge by killing many horses and riders. If the infantry is likely to turn and flee or if the cavalry is powerful (such as cuirassiers for example), then it must form square. As long as the infantry keeps its formation in a square, it fears nothing, but everything is still a matter of morale. The cavalry will make charges in order to impress their opponent and find a gap in the square. If the infantry waivers and disintegrates, it may be swept away. It therefore sometimes happens that a square is broken by a cavalry charge, but this is quite rare.

Austrian Infantry - Ottenfeld

THE CAVALRY

Cavalry is the prestige weapon of the Napoleonic period. An army generally has between 15% and 20% cavalry. Cavalry makes it possible to exploit a victory and turn the enemy's defeat into a rout. A cavalry charge, if conducted at the right time, can decide the outcome of a battle. Depending on the size of the horses, there are three types of cavalry: heavy cavalry, medium cavalry and light cavalry.

The heavy cavalry

These were cuirassiers, gardes du corps, carabiniers, grenadiers a cheval and the British heavy dragoons. It is the cavalry that has the heaviest and most powerful horses. It is used as a strike force to break through the enemy line. It is kept in reserve in order to be used at the appropriate time.

The medium cavalry

The medium cavalry consists mainly of dragoons and some chevau-leger lancers. It is a medium cavalry that is used for both heavy cavalry and light cavalry missions. Dragoons are however considered as heavy cavalry but of a lower value than cuirassiers because they are mounted on less massive horses. It should be noted that dragoons were originally trained to fight both on foot and on horseback, but this tactic is rarely used in Napoleonic times.

The light cavalry

It includes hussars, chasseurs a cheval, chevau-legers, lancers (or Uhlans), British light dragoons and the cossacks of the Russian army. Light cavalry is mainly used for reconnaissance, scouting and pursuit missions, which imposes an exhausting rhythm on the rider and his mount. Light cavalry generally has small and sturdy horses.

Organization

The cavalry is organized into regiments like the infantry. The tactical unit is the squadron which includes between 80 and 200 riders, 120 to 150 being the norm. A regiment consists of 2 to 10 squadrons. Squadrons sometimes operate in divisions of 2 squadrons, but they can also be used alone or as a whole regiment. A cavalry brigade consists of 2 to 4 cavalry regiments of the same type. A division almost always consists of two brigades, which can sometimes be of different types.

A part of the cavalry may be grouped into a reserve cavalry corp. This allows the commanding general to have a large cavalry mass that can be used at the decisive moment. Reserve cavalry brigades were also be assigned to corps as required.

Armament

All riders are equipped with a sword or sabre, pistols and sometimes a carbine or lance.

Sword and sabre

The rider's main weapon is his sword or sabre. It is the weapon par excellence of hand-to-hand combat and each rider is trained to use it. Heavy cavalry generally uses a straight blade sword while light cavalry is equipped with a curved sword. Two schools of training are arguing over the best way to use your weapon in combat. Most nations favour slashing cuts, which are more impressive and allow serious injuries to be inflicted on the opponent. French riders prefer the sword attack delivered with the tip of their blade. Although riskier, the thrust of a sword point often allows you to kill your opponent at one blow.

The lance

While it was the horseman's weapon of choice in the Middle Ages, the lance gradually disappeared in Western Europe during the 17th and 18th centuries. It was still used in Eastern Europe, especially in Poland. The lance was reborn during the Napoleonic wars and all nations, with the exception of the British, formed units of lancers also called Uhlans.

The handling of the lance is complex and only well-trained units (such as Poles) can use it effectively. The lancer has a better length than his opponents and can attack infantrymen placed in a square. In a cavalry melee, the advantage of the lance is less obvious. Indeed, in hand-to-hand combat, the lancer finds himself encumbered with his lance and disadvantaged. To compensate for this, it is common for only the first rank of cavalry to carry a lance.

Firearms

Almost all riders have firearms: rifles or carbines. These weapons are mainly used to fire on enemy cavalry during reconnaissance missions. Sometimes riders dismount to use their firearms because it is very difficult to shoot on horseback. Riders also have one or two pistols that are stored in holsters attached to the front of the saddle. Pistols are used during melees for close range shooting.

On the battlefield or in front of the infantry, the horsemen's fire is ineffective, and the cavalry prefers to charge with swords. Occasionally, cavalry will receive an enemy cavalry charge while stationary and use their firearms to try to disrupt the enemy. This can be useful if the cavalry has to cross an obstacle (a ditch for example) that will hinder its charge. This tactic remains limited and is rarely effective.

Cuirass

Only heavy cavalry wears a breastplate and not all of them are equipped with one. The English abandoned the use of breastplates before the Napoleonic era and Russian cuirassiers were not equipped with breastplates until 1812. The Prussians also lacked them until 1815. The French cuirassiers wear both front and rear cuirass, while the Austrians and Prussians only wear a frontal cuirass.

In hand-to-hand combat, the cuirass provides an advantage to the rider because it deflects the sword cuts away from the body. The rider thus has more confidence and fights with more enthusiasm. The sight of sunlight shining on breastplates generally has a negative effect on the opponent's morale. However, the cuirass is not effective against musket fire except at a distance. Up close, a bullet easily pierces a cuirass. Bullets most often reach the horse, legs or arms of the rider which are not protected.

Cuirassier - Jean-Louis Ernest Meissonier

Cavalry in combat

The cavalry is a weapon of cover and exploitation. Its role is to defeat the opposing cavalry, threaten the infantry to force them to form a square, break through a weak point, cover a retreat or pursue a fleeing enemy. When an army has a large number of heavy cavalry, it can also use it en masse to attack infantry. Napoleon used this tactic at Eylau to stop the Russians' advance but at the cost of terrible losses.

The charge

The charge allows the cavalry to engage the enemy in hand-to-hand combat. The charge is a very special moment and must be carried out with care to be effective. It is important that officers are competent and that riders maintain their order and alignment for the charge to be successful. Morale and training are very important here.

Cavalry usually charge in a line of two ranks. The riders start at a walking pace and then trot, making sure to keep their alignment. Arriving close to the enemy, the horsemen galloped with their swords and shout to intimidate the opponent. If the gallop is started too early, the riders may break up. If it is launched too late, the horsemen risk being knocked over by the enemy cavalry or taking too many casualties when being fired at by infantry. In some cases, a step forward can destabilize the opponent who starts his charge too early and is disrupted before contact. Everything depends on good timing, morale and the quality of the commanders.

Cavalry versus cavalry

When two cavalrymen charge each other, it is often the case that one of them gives way due to morale before the shock. The cavalry with the lowest morale disintegrates, slows down or even begins to flee. There is therefore very rarely a real collision between two masses of riders determined to fight. If involved, it is usually brief and the losses small. During hand-to-hand combat, the swords collide and the one with the morale advantage quickly puts his opponent to flight.

Cavalry versus infantry

Faced with orderly infantry, the cavalry has little chance of taking the lead. Indeed, a horse refuses to enter a mass of infantrymen ringed with bayonets, which for him is like striking a wall. If the infantry keeps its formation and delivers effective fire, the cavalry flees in disorder. The heavier and more impressive the cavalry is, the more likely it is to have the upper hand by its morale effect against infantrymen. However, when faced with infantry in a square even the best cavalry most often fails.

To be effective, a cavalry charge must be initiated against disordered infantry or some already disrupted by artillery or skirmisher fire. The best chance of success is to charge the infantry from the side or rear or by surprise before they have had time to form a square.

After charging

If the opponent is on the run, the cavalry may pursue him to destroy him. If the infantry cannot hide behind an obstacle or behind a friend, they are cut to pieces, while defeated cavalry can flee and outrun its pursuers. After a charge, successful or not, the cavalry is disorganized. The disorganized cavalry must withdraw to regroup. It is important to have a reserve to cover disorganized squadrons and allow them to withdraw and rally. The cavalry, once reformed, is then ready to start a new charge.

Friedland - Jean-Louis Ernest Meissonier

THE ARTILLERY

It is the ultimate scientific weapon. We only consider here the field artillery that is deployed on the battlefield. There is also siege artillery consisting of heavy guns, mortars and large howitzers. Its purpose is to destroy fortifications, it is very unwieldy and almost never intervenes in battles.

Organization

The field artillery of the Napoleonic era benefited from the technological advances brought by the Gribeauval system dating back to 1772. The number of calibres is reduced and standardized. The parts and components are lighter and more manoeuvrable, which makes for more mobile artillery on the battlefield. The calibres are expressed in pounds which correspond to the weight of the ball. The sizes are 3, 4, 6, 8, 9 and 12 pounders, with 6 pounders being the most common size.

Artillery can be considered foot or horse depending on whether the crew move on foot or on horseback. Horse artillery is faster and more manoeuvrable than foot artillery but is often equipped with smaller calibre guns. It usually accompanies cavalry but can also be attached to infantry.

Artillery was organized into companies, more commonly known as batteries. A battery consists of between 6 and 8 guns except for Russians who use 12 guns batteries and Danes use 10 guns batteries. Each cannon is pulled by a team of 4 to 12 horses depending on its weight and use. The limber contains a limited supply of ammunition, and ammunition boxes carry most of the ammunition.

There is also regimental artillery made up of battalion guns. Each battalion has two guns (often 3, 4 or 6 pounders) that provide close support to the infantry. This tactic was gradually abandoned because the infantry was slowed down by the guns, which were ultimately not very effective.

Type of ammunition

In a battery, the cannons are mostly classic bronze guns, but very often the battery also includes one or two howitzers.

The most common ammunition is the cast iron cannonball. The cannonball does not explode but hits its target and bounces onward over a more or less long distance, striking everything in its path. When the enemy is close, a cannister shot (or grapeshot) is fired. It is a tin can filled with bullets that has the same effect as firing a hundred rifle bullets, but with a wide dispersion.

Howitzers mainly fire explosive shells equipped with a time fuse. These shells have an arced trajectory and are very useful against troops sheltered behind an obstacle. They are also used to burn down villages.

Performance

The maximum firing range depends on the calibre of the barrel and the elevation of the tube. As the cannonballs mainly do damage when bouncing, it is necessary to fire almost horizontally to have the maximum efficiency. In practice, the effective range does not exceed 1000 meters for the 12 pounders or 800 meters for the 6 pounders. Shooting at longer range (if visibility permits) is usually a waste of ammunition. The range of cannister fire is even shorter. Beyond 250-300 meters there is too much dispersion of the grapeshot for the firing to be effective.

The firing rate of a cannon is about one shot per minute. When artillery fires from a distance, the rate of fire is lower to save ammunition. If the enemy attacks, the rate of fire increases. The accuracy is quite good up to 500 meters but then decreases rapidly.

The effectiveness of artillery fire depends on the skill of the crew, the visibility, and also the type of target. A ball has a similar effect on soldiers as a bowling ball on pins. The more the soldiers are squeezed into a compact mass, the more damage the cannonball will do. A front shot on a line three ranks deep will therefore cause less damage than a shot on a column of 9 or 10 ranks or a square.

The more the cannonball can ricochet, the more damage it can do. Facing a line, the enfilade shot (also called flank shot) with an angle of about 45° is the most effective. Experts at the time estimated that, at best, a single 12 pounders cannonball would kill or disable up to 36 soldiers.

Calculations allow us to estimate that when firing at a target at effective range, each cannonball causes, on average, one soldier loss. To get an idea of the average effectiveness of artillery fire we can therefore make the

following approximation. A battery of 8 guns firing for 30 minutes on a battalion of 600 men will fire 240 cannonballs. If each cannonball fired inflicts a loss (counting those that miss their target), the battalion will be seriously damaged after one hour of intensive bombardment. This remains a theoretical calculation but gives an idea of the effectiveness of artillery fire.

Artillery in combat

Artillery is a preparatory weapon. Its role is to bombard the enemy, to reduce his morale, to cause disorder in his ranks and thus to prepare for the attack of the infantry or cavalry. It also dislodges the enemy from its positions by setting fire to villages. The guns can be combined into grand batteries to create a gap in the enemy line by intensive bombardment.

The movement of artillery was not easy except among the French and English who had very mobile artillery. Artillery is particularly vulnerable when limbered because it is unable to defend itself. It must therefore always be accompanied by infantry or cavalry to protect it. Even once deployed, the artillery remains vulnerable because the crew are not able to defend themselves against a charge. If the battery's fire does not stop the enemy, and the enemy manages to contact it, it is lost. Artillery crew are also vulnerable to enemy skirmishers who can harass them with little fear. The guns were ineffective against skirmishers who were too mobile and too scattered to offer a target.

The placement of artillery must be carefully studied so that it has a clear line of fire. Placing artillery on a hill gives him good visibility and allows it to fire over friendly troops. However, this limits the effect of the bounce of the balls. The priority target of artillery is enemy cavalry or infantry, especially when it is in a compact formation (column or square). Against infantry in line, the most effective shot is the enfilade shot. Counter-battery fire against enemy artillery is generally not very effective, as the artillery is too dispersed.

Artillery can also be used in direct support of infantry or cavalry. It is mainly the role of the horse artillery that can move quickly. The battery is brought as close as possible to the enemy, usually to fire at him with cannister fire. This tactic is particularly effective against infantry who are in square formation to protect themselves from cavalry.

COMBINED ARMS

As we have seen in the previous paragraphs, each weapon has its own particular strengths and weaknesses. It is the combination of the three arms that makes it possible to win.

Artillery bombards the enemy and supports the infantry advance with its fire. It is protected from skirmishers and enemy cavalry by the infantry. Light cavalry tries to overrun the enemy to threaten its flanks and opposes the advances of enemy cavalry. The heavy cavalry remained in reserve, ready to be engaged at the appropriate time to break through the enemy position.

It is always important to have a reserve either to reinforce a vulnerable point or to exploit an enemy weakness. It is often the one with the most reserves who can win the battle.

Short bibliography

For those who would like to explore the subject further, here are some books in French and English.

Books in French:

- Studies on Combat - Charles Ardant du Picq
- Light cavalry outposts - Antoine Fortuné de Brack
- Anatomy of the Battle - John Keagan
- The Napoleonic Military Revolution (3 volumes) - Stéphane Béraud
- Waterloo Campaign Diary - Cavalié Mercer
- The First Empire 1804-1815 - Thierry Lentz
- Napoleon's Army - Alain Pigeard
- Waterloo - Thierry Lentz
- Napoleon warlord - Jean Tulard
- The soldiers of the Grand Army - Jean-Claude Damamme
- Napoleon and the Spanish War - Jean-Joël Bregon

Books in English:

- Tactics and the Experience of Battle in the Age of Napoleon – Rory Muir
- Imperial Bayonets - Georges Nafziger
- Napoleonic infantry – Philip J. Haythornthwaite