# THE ARMIES OF JAMES AND WILLIAM

BY MARGARET O'DEA AND RAY WALSH

Ill-disciplined, irregularly paid and poorly supplied, seventeenth-century armies were also accompanied on campaign by large numbers of non-combatants. Though military administrations became more sophisticated in the later part of the century ... at their worst, unpaid and undisciplined and let loose upon the civilian population, they were the ruin of any area that had the misfortune to lie in their path. By contrast, a well-paid army spent money wherever it passed, to the advantage of at least some parts of the local economy. In areas such as the Netherlands, which were the scene of frequent military operations at this time, commanders usually avoided pillage because they might depend upon such resources for their own winter quarters. (Kings in Conflict, ed. by W.A. Maguire, Ulster Museum, 1990).

This article is not concerned with the politics of the Jacobite and Williamite wars, but is intended to describe some of the military and more technical aspects of the forces involved. One of the main features of the conflict was the mixture of international forces that fought on both sides. The Jacobite army consisted of Irish, English, French and even some French Huguenots (who were
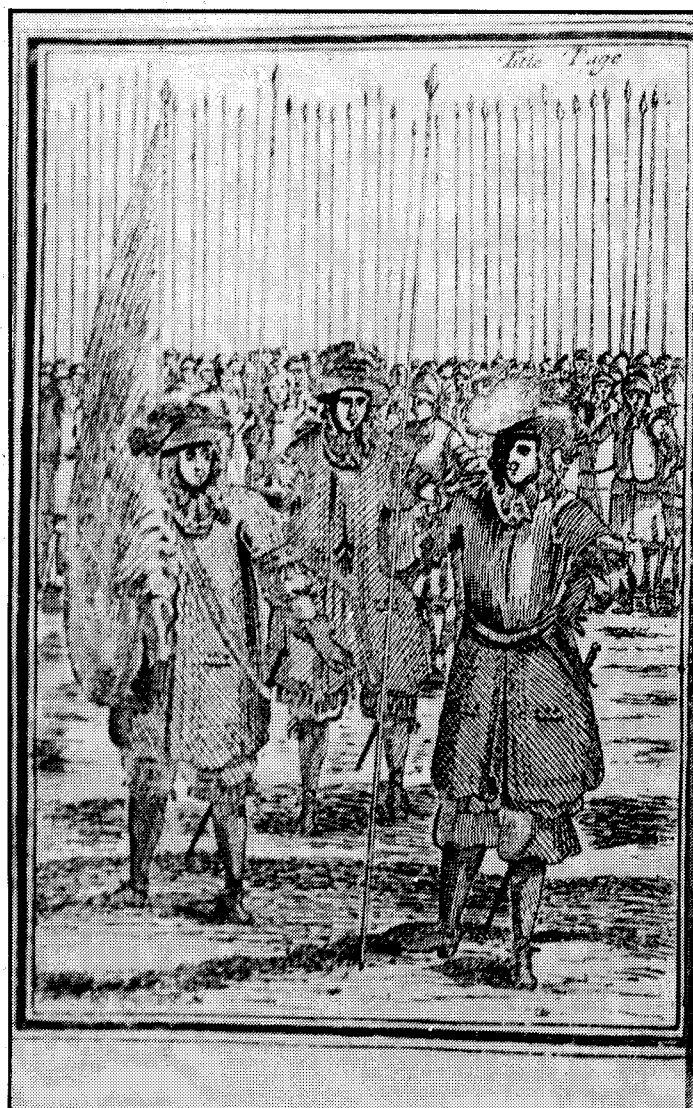
Military Difcipline;

OR THE

ART of WAR.

SHEWING

Directions for the Poftures

IN

EXERCISING

OF THE

PIKE and MUSKET

THE

Dragoons, Granadeers, and Horfe;

The Art of Doubling, wheeling, Forming and Drawing up a Battalion or Army into any Figure, &c.

The Method of conducting Armies in Champaign, Hilly or Woody Countries: Of Encampings, Befiegings, giving of Battel, with all forts of Inftructions and other Obfervations belonging to the whole Art of War: as now practiced.

All reprefented in Twenty two feveral Copper Plates, with variety of feveral Profpects and other Defigns, for the Practice and Exercife of Arms.

The fecond Edition with many Additions and Corrections

Improved and Defigned by Capt. *J. S.*

Publifhed and Sold by *Robert Morden*, at the *Atlas* near the *Royal Exchange* in *Cornhil*. 1689.

Military Discipline in the Art of War, 1689.

Protestants, then being persecuted by Louis XIV of France). Reference will be made to the British army. Technically, there was no such thing at the time of the sieges of Limerick. England, Ireland and Scotland had more or less their own armies – their own establishments. The British army *per se* did not come into being until the start of the 18th century. However, as the basic organisation of units under the three establishments was generally the same, units may be referred to as British, as against English, Irish or Scottish.

Prior to the 17th century, professional soldiers were relatively few in number. A chief or monarch would have some professional men-at-arms as part of his retinue. These bodyguards were too few to be regarded as an army. At best, they could impose their commanders' version of justice, scare the local peasants and tenants, as well as enhancing their chief's standing by their style of dress and ferocity of appearance.

During regional and national conflicts, these bodyguards' units provided the foundation for hurriedly-raised armies of civilians, most of whom would have some limited skill in the use of the relatively simple weapons with which they were armed. At the other end of the scale was the knight, clad in his cumbersome and expensive armour. He could very well be regarded as the equivalent of today's officers, or more correctly, the officer class of the last century.

The Romans were the first professional military force to be seen in these islands. They were highly organised into fighting formations (legions), had an established chain of command and were strictly disciplined. They had a uniformed training system, along with standardised dress, as well as pay and conditions of service.

Between the Roman withdrawal from Britain in the 5th century and the Norman invasion, the history of Ireland and Britain is chequered by many conflicts, in which local chieftains sometimes joined forces to conquer common opponents. These conflicts culminated in the English conquest of Ireland, Scotland and Wales.

These ongoing wars in our islands and in mainland Europe contributed to the development of the structure of military forces, along with their weapons and fighting techniques.

INFANTRY

Foot soldiers, or what we now call infantry, made up the bulk of any army of this period. They were normally organised into companies of approximately seventy officers and men. These companies formed battalions, normally with twelve or thirteen companies per battalion. Battalions were usually commanded by lieutenant-colonels, and companies were commanded by capt-

French grenadier, 1680s, lighting his bomb.

ains. One or more battalions made up a regiment.

A regiment took the name of its current colonel or proprietor. The name of a regiment could change with a change of colonel, as in the case of 'Hamiltons' (also known as the Royal Regiment of Ireland), which became 'Ingoldsbys' in 1705. These changes caused some confusion when formulating orders of battle. Thus, when a changeover occurred, the regiment might be referred to as the late so-and-so's until personnel became accustomed to the new title.

There were three types of foot soldier,

pikemen, musketeers and grenadiers. Each type was named after the particular principal weapon carried by the soldier. The pike was a 16ft. long lance-like weapon, and with it the soldier carried a sword. Officers carried a 'half-pike', 9ft. long, or a spontoon, 7ft. long. Sergeants carried a halberd, which incorporated a hatchet-type addition at the base of the spear-like blade, which was 7½ft. long.

With the invention of the bayonet, pikemen gradually became obsolete. The proportion of pikemen in the Irish establishment regiments was higher than in the English regiments, because the war in Ireland took place during a time of

major reorganisation and rearmament.

Firearms of this period were large, cumbersome, slow-firing and inaccurate beyond fifty metres. To protect the gun-armed soldiers from cavalry attack, some pikemen were retained, eventually becoming extinct with the onset of the socket-type bayonet, which added the defensive capacity of the pike to the offensive power of the musket. Originally bayonets were plugged into the musket, rendering it incapable of firing.

The musketeers were the forerunners of today's infantrymen. They carried a matchlock or flintlock musket. For the matchlock they carried a bandolier over the left shoulder, containing twelve wooden cartridges, a priming-horn or flask, a bullet-bag and the slow match. A sword was carried on a waist-belt or shoulder-belt. The Jacobites had mostly matchlock muskets, whereas the Williamites had more of the flintlock type.

One of the most famous musketeers of the period was D'Artagen, hero of Dumas's *Three Musketeers*. He was captain of the First Company of Musketeers of the Guard, in the service of King Louis XIV of France, from 1667 until his death at the siege of Maastricht in 1675.

Grenadiers were the stormtroopers, and were armed with a musket, hatchet and sword, as well as a pouch full of bombs, known as grenades. They were the elite company of a battalion, and while the line companies (which were non-elite) had a floppy or tricorn hat, the grenadiers were equipped with a tall mitre (bishop-style hat). The reasons for this difference in headgear were to distinguish them from the ordinary line infantrymen, to make them look more imposing and to facilitate the throwing of grenades.

Grenadier companies would unite for assault purposes, an example of which occurred when the breach had been made in Limerick's walls, on 27 August, 1690, during the siege when nine companies of grenadiers, followed by three regiments of selected foot, formed the attacking force.

The infantry element of most European armies contained one or more guards regiments. Among the most prestigious of these was Louis XIV's Maison du Roi. Some units, such as the Hundred Gentlemen and the Hundred Swiss, were palace and ceremonial guards. While the majority of guards' units served in the field when required, these did not do so.

Louis XIV's Body Guards (Garde de Corps) numbered four companies. The first of these was Scottish, with service dating back to 1440. The Scots also served in the Dutch infantry, which had a Scots Brigade. When William III ascended the British throne, he brought over his own Dutch or Blue Guards, many of whom were Catholic. They returned to Holland after his death. The British
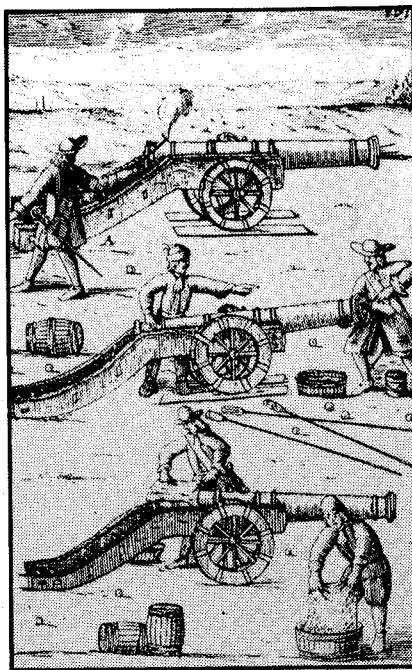
Seventeenth century siege guns in use: (from top) firing; cooling the barrel; cooling the breech with sheepskins soaked in water.

monarch had three regiments of foot guards. They were as eligible for foreign service as any regiment of foot, unlike the Household Cavalry, who remained with the monarch.

Some infantry regiments were raised to serve on ships. Their duties included the protection of officers from disgruntled sailors, and amphibious assault. Through a series of disbandments and reorganisation, they have now become the Royal Marines in the British service.

CAVALRY

Cavalry units were the most expensive to raise and operate. Consequently, they tended to be scarce on the ground. As with the infantry, cavalry regiments were usually known by the name of their colonel (normally their commander) e.g. Sarsfield's Regiment of Horse, or in Louis XIV's army, the Regiment Cosse.

A regiment was made up of a variable number of squadrons, with a typical squadron consisting of a number of troops. A troop was a collection of approximately fifty horse-soldiers, or troopers, as they would now be known. In some of the mainland European armies there was also the unit of cavalry called a company – this normally meant a group of two squadrons. The squadron was the tactical unit, i.e. a commanding-general would refer to his cavalry force strength in terms of the number of squadrons he had.

There were two basic types of cavalry units at this period, the horse regiments and the dragoon regiments. The horse regiments were what we would now

regard as proper cavalry – lines of troopers armed with a combination of pistol and sword charging forward at the gallop. Their function was to defeat the enemy cavalry and then to dispose of his foot soldiers, guns and baggage.

Dragoons (so called because the original units were armed with a firearm called a 'dragon') were basically mounted infantry. They were a highly mobile well-armed and versatile force. They were used for scouting, escort duty and every obstacle clearance – the latter being something the horse regiments would probably consider beneath them. The dragoons could and did fight on foot as effectively as they did on horseback.

As with the infantry, there were a number of 'guards' cavalry regiments, usually of the horse variety. In fact, in the British army they were referred to as Life Guards and Horse Guards. These units tended to have a slightly different structure to the other 'line' regiments. The English sovereign's Horse Guards were organised with troops as the tactical unit instead of squadrons, not that this mattered much, as they only went to war when their sovereign did and that was a rare event.

In mainland Europe, the better known guards cavalry units would have been the French Cheveux-Legers de La Garde (Light Horse of the Guard) and the Grenadiers a cheval de La Garde (Horse Grenadiers of the Guard), both units being no more than a company (two squadrons) in size.

Similar to the infantry, cavalry regiments were more or less raised when needed, and, when no longer required, were disbanded. The European armies tended to have a higher proportion of cavalry to infantry than those of the British establishments.

As befitting their lower prestige, dragoons were paid less than their horse colleagues. A colonel in an English horse regiment would have been paid 41 shillings a day, with a trooper getting 4 shillings and 6 pence, while their equivalents in the dragoons were paid 35 shillings and 2 shillings and 8 pence a day respectively.

Appearing in mainland European armies at this time were regiments of light cavalry called hussars. These hussars originated from Eastern Europe, and, while useful for scouting and hit-and-run operations, tended not to have the courage, and definitely not the equipment or discipline, needed to deal with enemy cavalry, whether they were horse or dragoon.

All cavalry were armed with a sword and, where at all possible, one or two pistols. The dragoons, naturally, had some form of infantry-style firearm, and probably a hatchet. Dragoons were usually equipped with shoes and gaiters (similar to the infantry), as against the heavy boots worn by troopers in the real cavalry or horse regiments.
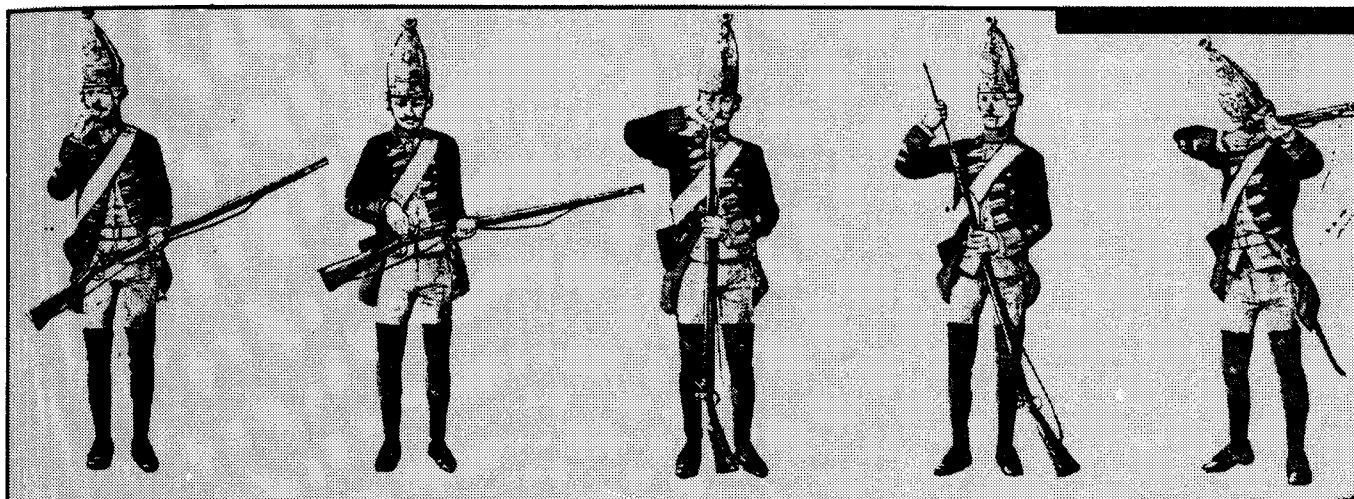
A grenadier loads and fires his musket. First, he bites the end off the paper cartridge and trickles powder into the pan. Next, he tips the remaining powder down the muzzle, following it with the ball, and the paper case to act as wadding. The charge is tamped down with the ramrod before he cocks the musket and brings it to his shoulder. This sequence, simplified from the many movements taught on the drill-square, was often modified in battle.

There were numerous variations in uniforms, particularly amongst the French dragoon regiments, where Joseph and his Amazing Technicolour Coat would not have been out of place. In mainland European armies, blue, green or grey were the more common coat colours, with red and crimson being more usual in the British regiments. Strong leather jackets were also popular with some of the British units. For headgear, the horse tended to wear tricorn hats with an iron skull-cap underneath, while the dragoons wore a small grenadier-type cap and a coloured bag to one side. As a general rule, if the oncoming cavalry had white sashes, they were probably French, regardless of the colour of their coats; if the coats were red without a sash, they were probably British, but one would have to wait to see their flag to confirm this. The cavalry normally referred to flags as standards. These identified the individual regiments and were used as a rallying point, and if a regiment was to lose its standard, it would be considered disastrous. Consequently, collecting the standards of the enemy was very prestigious, as well as being extremely dangerous.

ARTILLERY

In the British armies of this period, artillery trains were formed and manned for each particular campaign and were disbanded and dispersed at the end of the campaign. The trains were generally of two types, those containing guns used to fire on troops on the battlefield and those with heavier guns and mortars, which were used for the destruction of fortifications and breaching walls.

The first type of train would normally comprise 6-pounder and 9-pounder smooth-bore, muzzle-loading cannon. (A cannon was basically a thick metal tube

with a smooth cavity and a large opening at one end and a smaller opening at the other). They fired solid shot (6 pounds and 9 pounds in weight respectively), with the barrels virtually horizontal. The shot hit the ground some 300 to 600 metres ahead and then ricocheted two or three times. It was this ricocheting of the shot through the close packed ranks of soldiers that caused the death and damage.

The second type of train comprised heavier cannon, normally firing shot ranging from 18 to 32 pounds in weight. Mortars of 3 to 18 inches in calibre would be included here – they lobbed shot over obstacles rather than through them. The heavy cannon were moved forward in protective earthworks called saps (the diggers of these saps became known as sappers, which is now the rank of a private in an engineering regiment in the British army) until they were in range of the target wall or emplacement. Safe (they hoped) from enemy cannon-fire by virtue of the sap, and from musket-fire by virtue of the distance, they then fired solid shot at a fixed point of the wall until a hole was knocked through it. When this was done, the infantry (grenadiers usually) stormed through the breach.

As the mortars were high angle fire weapons, they were used to lob incendiary devices over obstacles, with the object of setting fire to the target behind the obstacles. Their range varied from 100 to 800 metres in distance.

In the mainland European armies, the artillery was much more militarised, as it was a regular part of the army, as against civilians contracted to fight for the duration of a campaign. In France, there was even a Regiment Royal de l'Artillerie. This equated to the British light or field artillery trains in its role. The bigger siege guns were manned by

the Royal Bombardiers.

The sizes of the cannons and mortars used by the various armies throughout Europe were fairly standard, although the mainland European armies made more use of light infantry cannon (usually firing 3 pound cannon balls). All cannon and mortars, except for the 3 pounders, were extremely cumbersome, heavy and slow. They required a lot of care and attention, as well as a large number of draught animals to pull, not only them, but also their wagons full of shot and gunpowder.

In the mid to late 17th century (and later in the case of the British), special units of foot soldiers were raised in order to protect the more-or-less civilian gunners from the unwelcome attention of hostile forces. These troops also kept the gunners at their guns when hostilities occurred.

As these soldiers spent their time surrounded by many barrels of gunpowder, the use of the normal musket type of the day – the matchlock – would have been very hazardous for their well-being. They were therefore armed with flintlock muskets or fusils. The fusil, with its inert flint, was a much safer weapon than the slow-burning matchlock.

The soldiers using these muskets became known as fusiliers and their regiments became fusilier regiments. In the French army, they eventually took over the job of manning the guns as well as protecting them and, in the period we are dealing with, became 'gunners' in the form of the Regiment Royal de L'Artillerie. In British service, they stayed as infantry, with their regiments having the word 'fusilier' in their titles. The British artillery trains joined the army in 1716 in the form of standing companies of the Royal Artillery.

If siege operations involved coastal installations, it would be usual, where at

all possible, for cannon and crews to the landed from ships for use by the defending forces and, where possible, shipborne cannon was used by the attackers.

WEAPONS AND TACTICS

Musketeers were initially equipped with matchlock muskets, for which they carried a bandolier over the left shoulder, which had 12 wooden cartridges (often known as the 12 apostles), a priming-horn or flask, a bullet-bag and a slow burning match (or wick). A sword was carried on the shoulder-belt or waist-belt. Cartridge-boxes began to replace the bandolier with the introduction of the flintlock musket. The plug-bayonet, carried on the left side of the waist-belt, was gradually replaced during the 1690s by the socket-bayonet.

Pikemen (who had almost vanished from some armies) would normally wear a thick leather coat, along with gloves, helmet and maybe a breast-plate and back-plate. The more modern pikeman during the fighting in Ireland, however, apart from not wearing the bandoliers etc., were dressed much as musketeers, except that they retained the characteristic waist-sash.

Grenadiers, with their distinctive mitres, were mostly armed with a lighter musket than the musketeers, which they carried hung across the backs on a leather sling. They also carried a pouch filled with 'bombes' or grenades. On a waist-belt they would carry a bayonet, sword, hatchet and cartridge-box. Along with the musketeers (before flintlocks), they would carry a match-box, which was used to carry an essential burning match, needed for the bombs. It was also used to conceal the burning match at night time and to protect the match from the rain and wind, to prevent the battle having to be abandoned due to rain.

Fusiliers in the British establishments were armed and equipped similarly to the grenadiers, their firearms being known as fusils. Officers also carried a firearm (normally field officers were equipped only with a sword or perhaps a pistol, as well as, on occasion, a small or half-pike). From their formation, such battalions contained neither grenadiers nor pikemen.

The horse regiments were equipped with swords and possibly a brace of pistols. They were also issued with cuirasses made of both back-and front-plates of armour. Dragoons, as befitting their role of mounted infantry, were basically equipped like the foot grenadiers, but without the armour of the horse troopers.

A land military engagement during this period took the form of either a battle or a siege. Battles were, in their simplest form, nothing more than two armies facing each other, with a couple of

hundred metres between them, and shooting off a couple of volleys at each other, having first 'softened up' the opposition with some artillery fire. Ideally, one army's cavalry would charge and rout the others and then concentrate on the infantry. Foot soldiers always had a very healthy respect for cavalry charges and continued to have until well into the 19th century. Infrequently, two infantry forces would fight each other with bayonets. In brief, battles very often involved a lot of marching and posturing, some artillery fire, firing off a few volleys and then retiring when the light faded.

Sieges were much more complex operations. First, one had to drive the enemy forces into the area to be besieged. One then encircled this force with a ring of ones own forces facing inwards, in order to keep the enemy in. One then set up an outward facing ring to stop the enemy reinforcing or resupplying the besieged force. Once one had the enemy encircled, one had to decide whether to starve him out, blow him out (with artillery), or combine blowing him out with an assault and the attempt capturing of the site – normally a city.

While this war was going on outside, the besieged were inside, doing their best to make the food supplies last as long as possible, and making forays (sallies) out with raiding parties in order to disrupt things as much as possible.

Starving a city could be a very long drawn-out operation, possibly resulting in one's troops starving along with the people in the city, particularly if they had gathered up or destroyed all the local food stocks.

Now and again, a week of artillery fire would persuade an opponent to see sense and capitulate. Normally, however, the walls would have to be breached and the city assaulted. Siege units – artillery and specialist engineers – were not part of a field army, so they would have to be brought from wherever they were garrisoned and, along with their equipment, installed around the city. Weak points in a city's walls would be sought and, when found, the siege artillery would concentrate their fire on them. This usually involved moving the cannon or mortars very close (e.g. within 60 metres at Limerick) and blowing as large a hole as possible in the walls. Grenadiers from various battalions would then advance through a series of meandering trenches and assault the resulting breach. Having taken the breach, more grenadiers, when available, or ordinary line units would break into the city, with the objective of causing the city to surrender.

This was all very fine in theory, but very seldom so straightforward in practice. Very often (when time allowed), the defenders built a rampart inside the breached wall, as at Limerick, and decided not to give in, but to fight it out

to a terrible finish. The weather could also prove detrimental, it was not very easy to light and throw 'bombes' in the middle of a gale or heavy rain, as at Limerick. Also one might just not have enough troops capable of carrying through the assault, or one might not be able to get the required artillery and supplies. This latter problem would be exacerbated by the activities of raiding parties such as Sarsfield's and roving bands of rapparees.

UNIFORMS

Leaving behind the functional, somewhat austere and puritan style of the Cromwellian era, and not yet having reached the heights of glamour and extreme delicacy of dress of the so-called 'Lace Wars' of the following century, this was a period of transition in uniform styles.

Military uniforms were variations of the civilian dress of the time. Fashions were set by the Royals and by rich fashionable gentlemen (referred to as 'beaus') who were the trendsetters of the age.

The fashionable 'suit' of the late 17th century consisted of a coat, breeches and surtout (pronounced sir-toot). The coat was collarless (to accommodate the heavy elaborate wig), with slightly flaring skirts, sometimes with pleats or stiff lining. The skirt was split up the sides and centre-back to facilitate horse-riding and carrying a sword. The coat was buttoned down the front. Buttons were sometimes left open to display the waistcoat and fine linen underneath the coat. Neckcloths of linen or fine lace were popular. The waistcoat or surtout was similar to the coat in style and length, but with the cuffs removed. Breeches were loose-fitting, covering the knee, and were tied in place by kneebands. Stockings were knitted in wool or silk and sometimes embroidered. Shoes were square-toed, with a high tongue, and were either buckled or tied. Their colours varied, and contrasting high block heels were much in vogue. Hats were broad-brimmed, with plumes or lace trimming.

The uniform dressing of troops evolved from the budgetary advantages of bulk buying and making-up of the cloth and from the economic sense of protecting troops from the weather. Although a monarch's bodyguard and elite troops had been wearing uniform dress and hairstyles since earliest times, the practice of uniform dressing of all ranks of a national army did not begin until the latter half of the 17th century, and by the early 1700s it was common in most European nations.

The cut and styles of uniform were similar throughout Europe. In the Irish, English and Scottish armies, the decisions regarding colour and trimmings were made by the colonel of the individual regiment, reflecting his own colours, personal taste and the amount of money

Musicians wore coats of reverse colours and facings to the rest of the regiment, which had lace trimmings on all the seams. Sometimes, the king's cypher appeared on both back and front of the coat.

Officers were dressed in similar style to other ranks. The quality of cloth was superior, and there was more trimming in silver and gold on the coat. A gorgét (small piece of armour) was tied at the neck, and was worn to show that the officer was on duty.

Cavalrymen were dressed similar to infantrymen, with some differences in the slightly looser-fitting coat, the sash, leather waistcoat, black high jackboots, gloves and cross-belt. They also wore a loose full cloak with a small cape.

Generally speaking, it was during peacetime that the more elaborate uniforms appeared. Some designs were far more glamorous than practical, particularly so among the French officers.

Portraits of the period show some very elaborate outfits. Hats would be as wide as the stiffened coat-tails and were trimmed with plumes all around the wide brim, which also had approximately 2 inches of wide braid. A bunch of ribbons hung over the left side and was repeated on the cane-handle. The coat had buttons and braided buttonholes from neck to hem, and was left open from the chest down to show an ornamented shirt underneath. The side vents were decorated with bunches of ribbon. The cuffs had deep ruffles with ribbon bows, and a large bunch of ribbons was worn on the right shoulder.

Petticoat breeches, made of lawn (fine cotton) and lace, had lace flounces hanging at each side and were tied just below the knee with ribbon garters and bows. Some 'bloomer style' breeches were gathered in above the knee. The long flounce below was turned up and sewn at intervals to form large baggy pleats.

Wide-fringed silk sashes were used to cover leather cross-belts and waist-belts. Gauntlet-style gloves were embroidered or trimmed with fur. Wigs worn by soldiers were called 'campaign' wigs and were slightly smaller than the usual style. These were long, sometimes ending in two corkscrew singlets or 'dildos', and were tied or decorated with bows.

THE LIMERICK SIEGE

Limerick city in 1690 would have been a difficult city both to attack and to defend. For an attacker, there was the fact that the city was partially guarded by the Shannon and Abbey rivers, therefore reducing the potential areas in which a breach could be usefully made – an assault on a breach would be difficult enough, but combined with a river crossing under fire, it would be

English cavalry: 9th Horse, officer, 1685. Raised in 1685 as Queen Dowager's Regiment of Horse. Later 9th Horse. By 1692, with disbandment of other regiments, became 7th Horse.

at his disposal. The standard of uniform varied enormously, as did the colour schemes within the armies. William's Dutch troops wore large blue coats, lined with orange, orange waistcoats, blue breeches, stockings, caps embroidered with a shovel in front, and hats with orange silk trim. Many of James' and William's troops wore red coats with blue lining and facings, and red breeches and stockings, possibly with yellow bows. At the other end of the scale were some hastily raised local regiments with only their own clothes, which were often ragged and quite sparse. So the uniforms seen at Limerick in 1690 were extremely varied and colourful.

Precise details of the uniform of individual regiments are difficult to find. We are indebted to Major Stephens of the Royal Irish Rangers Regimental Museum in Enniskillen for information on the Inniskilling Regiment. Early accounts indicate that the Inniskillings wore grey uniforms sent from England, eventually changing to a red coat, blue breeches and white surtout for the men, and red

breeches for the officers.

In military uniform, the style of coat, breeches and surtout was similar to those worn by civilians, with a shirt and white cravat tied at the front of the neck. Head-dress was a broad-brimmed hat, with a low crown, usually black, with contrasting trimming. Stockings were white, or the same colour as the breeches. In 1691, gaiters or spatterdashes first appeared. These were heavier overstockings, which helped to keep shoes on when marching through muddy ground. Shoes were strong, square-toed, neither right or left, having a high tongue, and were usually buckled. Each infantryman was also issued with a snapsack (knapsack) to carry his kit and a waterbottle.

Pikemen and musketeers were similarly dressed, with pikemen wearing a sash for distinction.

Grenadiers had their coats trimmed with lace loops on the chest and pockets. Their headdress, designed to facilitate the throwing of grenades, was jelly-bag style, with embroidered mitre (bishop-style) front.

SIEGECRAFT AND FORTIFICATION

Louis XIV's wars saw fortress warfare reach its height. The conduct of the siege of the Dutch fortress of Maastricht in 1673 by the French engineer Sébastien Le Prestre de Vauban (1633-1707) showed his technical mastery of siegecraft. Trenches were opened on June 17-18, and the governor, a brave and experienced officer, capitulated on July 1. During the intervening fortnight, the siege had progressed with the formalism which typified such operations. The besieger opened his first parallel just out of cannonshot from the fortress. His engineers sapped forward, their zig-zag trenches offering poor targets to the defender's guns and protected on the enemy side by earth-filled wicker gabions. In good ground a sap might be driven forward 160 yds. (146m) in 24 hours, but it was an exhausting and dangerous process. A second parallel was dug some 300 yds. (274m) from the fortress; then the sappers pushed on again until a third parallel could be dug, ideally at the top of the ditch itself. Meanwhile, the besieger's gunners kept the fortress under bombardment from batteries in the second parallel, probably using 24-pounders, the work-horse of siege artillery, while mortars lobbed bombs into the body of the place. Once the third parallel was completed, the attacker could establish his breaching batteries and hammer away at the ravelin or bastion opposite. His engineers supported the attack with efforts of their own, digging beneath the fortress to explode mines.

The defender would not allow these measures to go unopposed. His gunners fired at the sap-head and took on enemy batteries as they were established. A determined governor would mount sorties at judicious moments, to discommode labourers at work on the parallels or to get into the besieger's batteries, where he might delay the siege by spiking guns – hammering files or nails into their touchholes – or do more permanent damage, bursting guns by firing them with a blocked muzzle. His own miners would be hard at work underground, their task often made easier by counter-mine galleries dug when the fortress was built, hoping to blow in the attackers' mines or to blow up a battery. Any one of these endeavours might be crowned with success: when the French besieged Turin in 1706, the garrison deftly exploded a mine beneath a battery 'which scattered breaching cannon like straw', and at Fredriksten (also known as Fredrikshald and Halden) in 1718 Danish gunners, firing grapeshot in the dark towards likely spots for working parties, killed Charles XII of Sweden and thus ended the siege at a stroke.

FORCED SURRENDER

Such an outcome was unusual. It was more likely that the besieger would batter a practicable breach in the defences and summon the governor to surrender. If he refused, he risked the massacre of his garrison and the sack of the town when it was stormed. This convention was intended to prevent a useless effusion of blood, for it was argued that the defender had no hope of success at this juncture and his resistance was therefore unreasonable. It also reflected the fact that it was difficult to control troops committed to a storm: maddened by the fighting and spurred on by

the prospects of rape, pillage and drink, they showed a distressing propensity for sacking a town, even if their commanders wished otherwise ...

VAUBAN

Marshal Sébastien Le Prestre de Vauban (1633 - 1707) came from a family of impoverished Burgundian gentry, and entered the army as a volunteer under the rebel Prince of Condé in 1651. Captured two years later, he was won over to the royalists by Cardinal Mazarin, and served his apprenticeship as an engineer under the Chevalier de Clerville. He succeeded his master as *Commissaire Général des Fortifications* in 1678, was promoted lieutenant general in 1688, and became Marshal of France, the first engineer ever to enjoy this dignity, in 1703. During a long and active career, he directed nearly 50 sieges and produced plans for 160 fortresses. Vauban was a tough, practical man whose concern for the common man was unusual amongst the generals of his age. He worked prodigiously hard, spending his summers on campaign or on an endless round of fortress inspections, and his winters in Paris, poring over plans. At Maastricht, in 1673, he pioneered the attack by parallels, and the principles he established survived as long as the classical fortress. Not only scores of fortresses, but also the imposing Maintenon Aqueduct, built in 1685 to carry water to the new palace at Versailles, commemorate this tireless and talented engineer.

The essence of Vauban's siegecraft was to apply the defensive strengths of earthworks to the attack in a manner more prodigal with sweat than blood. His fortresses, revealing a similar desire to husband human resources, emphasized the role of artillery. He produced three systems, starting with a bastioned trace like that used by his countryman the Comte de Pagan, and ending, in the splendid fortifications of Neuf-Brisach on the German frontier, with massive bastion towers, covered redoubts in the ravelins, and recessed curtain walls with casemates which would remain immune from fire until the last moment. Distinguished though he was, Vauban was not unique. The great Dutch engineer Menno van Coehoorn (1641 - 1704) merits laurels of his own, while the Marquis de Montalambert (1714- 1800) recognised that a siege was in essence an artillery duel, proposing that fortresses should be huge multistorey gun-towers which would dominate the firing capability of any attacker.

THE DECLINE OF FORTRESS WARFARE

Given the difficulty of charting the evolution of the military art as events actually unroll, it is not surprising that engineers haggled over the merits of rival systems of fortification long after fortress warfare had lost the eminence it reached in the period 1660-1715. Christopher Duffy, the leading modern authority on fortification, suggests that fortress warfare declined neither solely because of the growing superiority of attack over defence, nor even because the ability of fortresses to block choke-points diminished as armies became more mobile. He points instead to changes in the structure of armies. (*The World Atlas of Warfare* by Richard Holmes, London, 1988).

---

extremely dangerous. Some of the land surrounding the city was quite marshy in nature. This would restrict the movement of the siege guns.

On the positive side for the attackers, the walls of Limerick were not a serious obstacle. They were relatively lightly built, without the necessary parapets and firing positions from which fire could be directed on attacking forces. Before and between the sieges, considerable work was done to bolster the city's defences. This mainly took the form of building forts and entrenchments outside the city walls, which was done with the view of keeping the enemy away from the weak and vulnerable walls.

The Jacobites had the advantage of considerable experience in siege warfare. The armies fighting at Limerick would have included a mixture of units covering the full spectrum of military capability, ranging from highly trained and well equipped mainland European

units through moderately equipped and trained English and Irish establishment units to very recently raised and poorly equipped Irish Jacobite units.

Some Jacobite units were equipped with not much more than rudimentary pikes, and would have been without uniforms or proper training and discipline. Other units would have been equipped with material left over from Cromwell's visit. This would also be true of some of the newly raised Williamite units.

Matchlock muskets and pikes were the almost standard issue to the Jacobite units, as the much better armed French battalions had gone to Galway, leaving only some staff officers and other specialists. The Williamites, whilst still having matchlocks, particularly in the English and Irish establishment units, would have had a much smaller proportion of pikes, with their main weapon being the relatively modern flintlock musket.

The Jacobite-Williamite war was an element of a much larger European conflict. Wars were fought and won in mainland Europe, not in Ireland. Fighting took place in Ireland because William followed James here, and the French thought that it would be an opportunity to tie down some of William's forces and keep them out of Europe.

Much has been said about the religious significance of the war in Ireland. While it could be said that the Williamites were mainly Protestant, one must also consider that French Protestants formed at least one of the battalions of infantry on the Jacobite side and that a large number of William's Blue Guard would have been Catholic, along with many of the troops in the English establishment forces. If that did not complicate matters enough, the Pope at the time was a supporter of William, regarding Louis as an over-ambitious monarch.