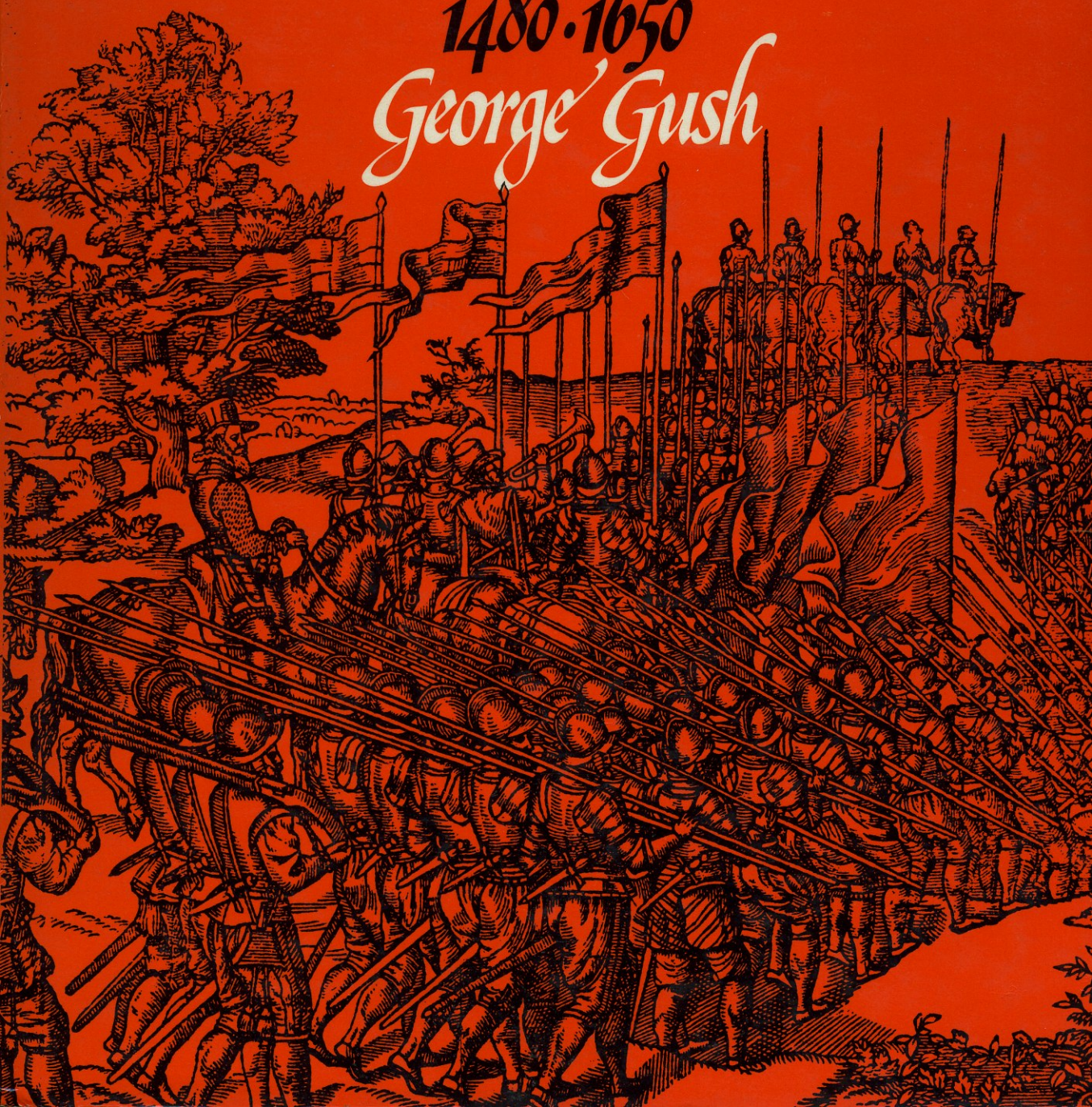
Renaissance Armies

1480-1650

George Gush



This is the first book ever to record in detail the organisation, equipment, uniforms, flags and tactics of the armies of the Renaissance period of European history.

Beginning with an account of the general development of infantry, cavalry and artillery weapons during the period 1480 to 1650, it then goes on to describe the individual armies of every major nation, from France and Spain to Sweden and the Netherlands; Ottoman Turkey and Persia to Muscovy and Poland. In each case the origins, strengths, basic organisation, uniforms, flags and weapons are described as fully as possible within the limitations of surviving manuscripts and illustrations which the author, himself a history lecturer, has delved deeply to discover. The book thus opens up a completely new aspect of one of the most significant periods of Western history — the Renaissance.

In military as in other arts the Renaissance was a period of rapid and significant change. Bows, crossbows, swords, halberds, lances and all the paraphernalia of medieval warfare co-existed with the new weapons — pikes, arquebusses, muskets and cannon. The aristocracy of various nations still rode to war in full plate armour, but their battlefield supremacy was fast dwindling before a new breed of lighter, more mobile troops, armed with gunpowder weapons which could pierce the strongest armour. Infantry, previously despised, could now hold its own against mounted adversaries.

In organisation too, armies were changing as the feudal yoke was thrown off, and the beginnings of a regimental system established. Uniforms, such as they were, were still largely a matter of personal whim: puffed and slashed tunics and breeches of multi-hued material were popular, while flags and standards were equally colourful.

The multitude of illustrations, mainly from contemporary prints and engravings, brings fully to life the bizarre and multi-faceted quality of the armies of the Renaissance, and this book will be invaluable to historians, students, military enthusiasts and modellers, and wargamers.

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George's previously published works include contributions to books and many articles on military history, wargames and related topics, in specialist magazines.

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Jacket design by **Ian Heath**

Jacket illustration taken from one of Derrick's illustrations of the English army in Ireland, 1581 (British Museum).

Renaissance Armies
1480-1650

Dedication

To Sheila, with my love

Renaissance Armies

1480-1650

George Gush



Patrick Stephens, Cambridge

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ERRATA

The section of text headed 'The Catholic Confederates' on page 40 should appear at the end of Chapter 10 on page 42.

The section of text beginning with the words 'The cavalry had helmets and sleeveless buff coats' on page 45 and ending with the words 'MacDonalds in this period' on page 47 should appear at the end of Chapter 11 on page 47.

The author and publishers apologise for any confusion caused by these errors.

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Introduction

This book is about the various armies of the period from 1470 to 1650, rather than being a military history of that era, and primarily sets out to describe how they were armed and equipped, how they were organised, and, a question often ignored in historical writing, what they *looked* like — though it does also cover the general nature and development of the weapons and tactics of this very critical era, the beginning of the gunpowder age.

It is not a work of original research, nor of course the last word in its field, but I believe that it does fill a gap, in that no comprehensive account of the armies of the early firearm era has been brought together in any other work, so far as I am aware, nor indeed has any book devoted to the military developments of this period alone appeared in English since Oman's *A History of the Art of War in the 16th Century* which has been out of print for almost a generation.

I hope it will be of use, both to the general reader with an interest in history or military affairs, and to the growing body of wargamers and military modellers, but would mention to the former that this is not a book on warfare as a whole, and that I have not attempted to draw any picture of the very real horrors and futilities of warfare, though they were even more evident in this period than in most others before our own time.

I should like to thank Bruce Quarrie, without whose original encouragement this book would not have been written; Roman Olejniczak for his assistance which includes not only his splendid pictures but practically all the research on the Polish army and much aid besides; Anita Daniels, Andrew Finch and Alex Marcoff for their generous help with translation; and Ian Heath for transforming my scrawls into the drawings which are perhaps the chief attraction of the book.

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1

Warfare in the period 1480 to 1650

In the political and social fields, this was an immensely important era, seeing the end of feudal Europe, the rise of the absolute monarch and the nation-state (largely through the development of effective paid armies); the close of the Renaissance era in Italy — once more through war — but the spread of its effects through the West; the birth of science; the spread of printing — and scarcely less significant, the substitution of chemical power for muscle power in warfare. An age of religious wars sparked off by the Reformation, culminating in the ghastly Thirty Years' War, it also saw the peak and decline of Ottoman conquest; the conquest of the Spanish Empire and the wars that freed Holland from it; and in Britain, the defeat of the Spanish Armada and the revolutionary victory of Parliament in the English Civil War.

If there was ever a period in which warfare changed the face of the world, this was it, and the revolutions in thought and organisation which characterised the age equally changed the pattern of war. In military affairs this era in fact saw a total transition, from medieval warfare at its beginning to, at its end, a standardised pattern that would not change basically until at least the period of the French Revolution.

Change really began with the development of reasonably effective infantry firearms, and of drilled foot soldiers with the pike, both of them developments of the late 15th Century. With the rather earlier appearance of the siege-gun and the localised impact of the English longbowman, these brought to an end the feudal age based upon the castle and the armoured cavalryman (though the demands of prolonged warfare had already replaced strictly feudal service with semi-mercenary arrangements).

Strong national monarchies were paralleled, indeed permitted, by the gradual development of armies over the period, from the feudal levy with some admixture of payment, via the 'pure' mercenary forces which dominated the period, to permanent standing armies at its end — though strictly *national* forces even then were few. Growing efficiency in administrative and economic fields equally gave rise in the military field to what were really the first armies since Roman times to have fixed unit organisation with regular drill and discipline (this often consciously inspired, like so much of the cultural Renaissance, by Classical models).

As always in human history, change was neither instant nor total, and an interesting aspect of the period is the survival in the military field of the old alongside the new; the armoured 'knight' was present up to the end of the 16th Century on the battlefield. Even if many such soldiers were not actually knights, the ethic of chivalry was clearly still alive in the careers of such men as Bayard, the 'Chevalier sans peur et sans reproche'. His death, delivered by the unchivalrous arquebus, perhaps presaged coming change, but other 16th Century leaders showed strongly the knightly tradition. Gonzalo de Cordoba, the first great general of the gunpowder era, was also a Commander of the Military Order of San Diego and fought in the last Crusade (against the Moors in Granada); while the young French commander Gaston de Foix led a 'scientific' campaign culminating in the victory of Ravenna, then threw away his life in attempting a romantic, chivalrous 'feat of arms'.

Nor did medieval armour vanish before the all-conquering bullet, even though war became a much more risky pursuit for the upper classes (one 'chivalrous' attitude of the early 16th Century was to execute captured arquebusiers for thus threatening their betters). Indeed, the 16th Century probably saw the widest-ever use of armour, and certainly its greatest strength and most elaborate ornamentation (perhaps because smooth glancing surfaces were less important against bullets), though by the 17th Century it began to disappear.

Moreover, far earlier traditions and weaponry also persisted; even if one disregards the stone-age Aztec and Inca forces defeated by the Spanish Conquistadores, Ireland, for example, could produce Celtic warriors whose dress and weapons would not have surprised Julius Caesar, as well as mailed axemen from the Viking age. Across the East, from Poland to India, rode mailed horsemen with lance and bow, who would not have been out of place in the armies of Byzantium or Sassanid Persia, a thousand years before, while the great grass seas of Asia were still voyaged by the Tartars, unchanged descendants of the Mongol hordes, their one-time invincibility fading before the gun. Crete, whose mercenary archers had marched in the armies of Alexander the Great, was still supplying them to Venice nearly 2,000 years later!

None the less, this was essentially an age of change, even revolution, in warfare, and by the third quarter of the 17th Century this change had run its course. Over most of Western Europe, uniformed standing armies were beginning to receive flintlock and bayonet, allowing a single 'standard' infantryman to exert both fire and shock and thus ending the 'pike and shot' era, as our period may be considered. Armour (save for some cavalry cuirasses, which would survive until 1914) had vanished, and nearly all cavalry had taken to charging with the sword; the pattern of warfare in essentials would not greatly change for 150 years. In the East, although old ways persisted, the lesson was plain — adopt the new ways, like Russia, or decline, like the Turks; indeed, the 'new' armies, over the next two centuries, gave Europe dominance of the world.

Thus a period which has in the past been dismissed as uninteresting to the military historian, and which, even today, has been neglected in comparison with, say, the Napoleonic era, is a clearly-marked age of vitally important change in war. Even if opportunities for brilliant generalship were limited by the nature of the armies and wars of the time, a period which produced reformers like Maurice of Nassau and Gustavus Adolphus, cavalry leaders like Prince Rupert and von Pappenheim, generals like Cromwell and Henri of Navarre, could hardly be said to be devoid of military leadership, while the actual armies of the time were immensely varied, colourful and picturesque.

The present book does not attempt to deal with the new armies emerging in the later 17th Century, but is confined to those of the age of transition — the era of the pike — itself, and even within these limits, considerations of space restrict us to Europe and the Islamic world.

2

A general survey of infantry organisation and arms

The end of the 15th Century and the first half of the 16th were a period of experiment, with various firearms and bows in the hands of the missile troops, or, as English writers tended to call them, the 'Shot', and many different shock weapons also in use — sword, bill, halberd, pike, axe and so on.

By the mid-16th Century some 'best buys' in the field of weapons had emerged, and most Western European armies at least settled down to a combination of pikes and arquebus, with a gradually increasing proportion of muskets among the latter. By the early 17th Century the musket had taken over, and pike and musket ruled the battlefield, until, in the second half of the century, the development of the bayonet, by making it possible for the musketeer to defend himself against cavalry, made the pike redundant.

A somewhat similar picture of gradual standardisation appears in the field of organisation; at the end of the 15th Century, armies were composed of feudal levies or of mercenaries, both usually in companies or bands of non-standard size, and for combat these were usually formed temporarily into three large 'battles' (originally van, main battle, and rear).

The early 16th Century was still an age of mercenaries, with Lansknechts fighting against the German Empire, Catholic Italians helping to crush Catholic rebels in England and so on, and this remained true later, though by the second half of the century troops were beginning to be hired on a more permanent basis. They were still a very mixed bag, though — the 'Spanish' armies, for example, did contain a few Spaniards, but also Italians, Burgundians, Walloons, Germans and Swiss — and soldiers hired on a temporary basis remained important. Partial exceptions were to be found on the outskirts of Europe: England continued to rely on a militia system, Sweden attempted to establish a national conscript army in the 1560s (though, like later attempts of the same type, this had limited success), and the Turks had the only large regular standing armies in the world. A form of semi-feudalism, with land held on a non-hereditary basis in return for military service, prevailed throughout the period in, for example, Russia, the Ottoman Empire, the Eastern borders of Austria and other Eastern areas, though more cavalry than infantry were maintained this way.

In these circumstances, the basic administrative unit of all armies was the company, originally the captain-contractor and the mercenaries raised by him. Companies were of widely varying size, and were not generally tactical units. Several would be united — originally in an *ad hoc* manner, upon the battlefield — to form a larger battle group. The larger groupings gradually became more permanent in the early 16th Century and large tactical units arose — the Spanish Tercios and the French 'Legions' for example — to last, in the former case, right through the period, with considerable success.

Rather smaller 'regiments', often created temporarily for a single operation or campaign, were also used, for example by England, and late in the 16th Century 'Battalions' of 500 or so, modelled originally on the Roman cohort, were introduced to give greater flexibility — a regiment or brigade comprising several such battalions (earlier the word 'battalion' had been applied to the large medieval-style 'battle').

As well as this sort of development, there was a gradual change in the proportion of shock to missile weapons within infantry formations, both being necessary, since no missile troops of the period could stop a cavalry charge by their fire, nor, usually, stand up to cavalry once they reached close quarters. At the beginning of the period pikes, unsupported by shot and relying upon close-quarter combat alone, were not unknown, and only 1/16th of the original Lansknechts were shot, but the proportion of missile-men steadily grew, and by the 1580s they would usually form about half the total; by this time the pikes were really supporting the shot, rather than the other way round. By the second quarter of the 17th Century two shot to one pikeman was considered ideal, though it was not always attained in practice. Gustavus Adolphus, however, favoured a larger proportion of pikes, 2:3.

In addition there were, throughout the period, units composed of missile men only, particularly in the East, where support for cavalry remained the prime function of infantry, and foot were not expected to withstand horse except with the aid of field-defences of some kind. In the West such units were not very common and were likely to be formed temporarily for particular purposes; groups of arquebusiers or musketeers were often detached ('Commanded') to support cavalry, or to form a skirmish line or 'forlorn', for example.

Drill and frontages

Some degree of drill was to be expected in mercenary bands even at the beginning of this period. Most of it would be in weapon-handling rather than formation or manoeuvre, and this remained true of most Eastern troops up to the end of the period. The pike, however, required a high degree of battle drill to avoid total confusion, and was a weapon only effective when used *en masse*; excellence in drill was a major part of Swiss success. The developing firearm methods of countermarch and caracole could only be carried out by drilled troops, and a growing number of manuals bear witness to this trend in the 16th Century. The relative lack of *standing* forces, however, would have meant lower standards in this area than those common in later times, with certain exceptions such as the Spanish, Swiss and later Swedish forces.

Formations also seem to have been looser, the normal fighting spacing by the 17th Century being 'order' — that is, with three foot spacing *between* files. For operations such as facing about, or 'doubling the files' (bringing the rear files up between the front ones, thus halving the depth of the unit and doubling its frontage, in men), 'open order', with six foot intervals, was employed, while 'double distance' (12 foot intervals) was used, for example, when under artillery fire. Such spacings would make the task of ill-trained troops rather easier, allow for the handling of such cumbersome weapons as pikes and matchlock muskets, and would permit such tactics as countermarching fire and the actual *interspersing* of pikes and shot used, for instance, by the Burgundians, and recommended (by Sir George Carey) as late as the 1580s.

For receiving cavalry, pikemen would of course use 'close' or 'closest' order (18 or six inch intervals respectively).

Infantry formations in the 16th Century were usually very deep; for pikemen often square (elaborate tables existed for forming varying numbers of pikes into optimum formations). In the latter part of the century they became increasingly linear, though even by the mid-17th Century six deep was still the norm, double the depth of later 18th Century formations. Ring formation was used for the same anti-cavalry function as the later square, but not employed so frequently, presumably because the normal

16th or 17th Century formations were so much better adapted to withstand cavalry than those of later times. Needless to say, many troops, including missile-armed skirmishers and many Easterners, would not maintain any fixed formation.

Infantry shock weapons

The pike

In the hands of Flemish and Swiss, this was the weapon which helped to end the Middle Ages by making it possible for the despised and lower-class foot soldier to face his mounted, armoured, 'betters' in open battle.

Pikes had a long shaft, usually of ash, and a head which might be leaf or lozenge shaped, but could be just a spike, often square in section. The head was held on by metal straps or 'languets' running at least two feet down the shaft, to stop opponents chopping the head off.

At the beginning of the Italian Wars, pikes were usually ten feet long, but the Swiss then, or perhaps earlier, lengthened them to 18 feet. Others, including the Italians, followed suit, but Germans and Spanish preferred a shorter weapon, about 13 feet long. English pikes, at least in the 17th Century, were 16 to 18 feet long, and this probably represents the popular range, though pikemen were much given to hacking a foot or two off the butt end to lighten their burden.

For receiving cavalry, the pike butt was rested on the ground, steadied against the right foot, while the left hand supported the weapon with its point at the height of a horse's chest; the right hand held the sword-hilt, ready to draw. Pikes could cover two ranks of shot — one standing and one kneeling — with their projecting points. In the attack, the pike was held more or less horizontally in both hands, about shoulder height, and about 2/3 its length back from the point (the Swiss, however, held it nearer the middle, and sometimes above the head, the point sloping slightly down). While manoeuvring it would usually have been 'advanced' in an upright position, on the march probably 'shouldered' (like a musket at the slope).

Other staff weapons

As the illustrations indicate, there were a variety of these in use in the early part of the period. Most were mounted on shafts six to eight feet in length; their disadvantage was that men armed with them were much less able to stand against a cavalry charge than were pikemen, and this was why the Swiss, originally halberdiers, had adopted the pike. Their advantages were, firstly, their armour-piercing qualities (the tin-opener look of several is no coincidence!), and, secondly, their superiority to pikes in anything like an individual combat. Once pikemen were halted, or their formation broken, they could not defend themselves against these terrible blades, as the victory of English bills over Scots pikes at Flodden in 1513 showed.

Bills were the English weapon *par excellence,* and remained in large-scale use till late in the 16th Century (in 1584 there were 2,500 billmen on the Scots border, compared with 2,400 pikemen), and they were also used by the French and Italians. Glaives were particularly associated with the Welsh and the Spanish.

The 'berdische' type of poleaxe was in use by the Russian Streltsi and some Polish infantry until late in the 17th Century, and some were eventually fitted with a spike on the butt so that they could double as musket-rests. Two-handed axes were also used by the Scots, and by Gallowglasses in Ireland, until at least the early 17th Century. Otherwise, however, the more unusual weapons like the Lucerne Hammer had largely disappeared by the mid-16th Century.

The halberd was widely used to support pikes in the early part of the period, halberdiers in relatively small numbers guarding the colours in the midst of the pike mass, issuing out to attack the enemy flanks when the pikemen were halted. The number of such men tended to be reduced, and by the 17th Century the halberd was mainly a weapon of bodyguards and NCOs; the partisan was used, again, for bodyguards, or as a symbol of an officer's authority.

Infantry swords

The development of swords is a topic on its own and cannot really be covered here, but some characteristic types are illustrated; in general Western European infantry carried straight two-edged cutting swords, officers sometimes carried thrusting rapiers. The sword as primary weapon among infantry had largely vanished by the 1550s, but it had become more or less universal by the same period as a *secondary* weapon.

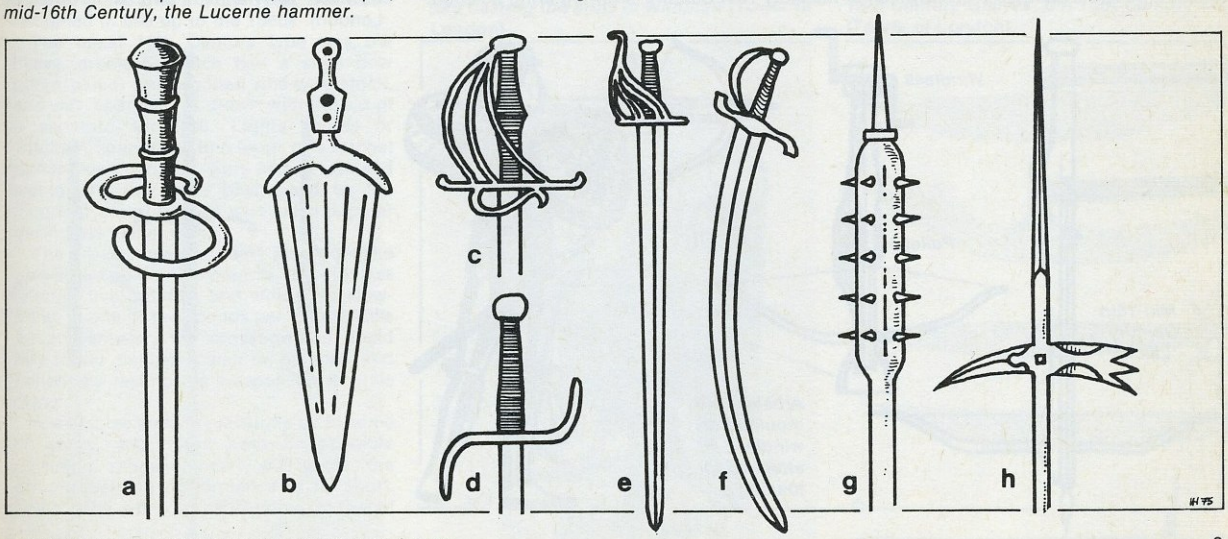
Two-handed swords deserve a mention; they were particularly popular with the Swiss and the Lansknechts (usually officers carried them) and the Scots claymore of the 16th and early 17th Centuries was also a two-handed weapon; their function was much like that of the staff weapons already mentioned.

By the 16th Century, the Turks and other Easterners usually carried single-bladed, curved, cutting swords, and these were also found among Poles, Hungarians, Cossacks and Muscovites.

Infantry shields

Large oblong 'pavises' propped up or held to shelter crossbowmen, especially in sieges, were probably still in use at the beginning of the period. Otherwise, shields were beginning to disappear from the infantry, probably because both pike and firearm required the use of both hands, and because a shield offered little protection against a bullet. They were officially abolished in Germany by the Emperor

a *Typical hilt and guard of Lansknecht sword.* **b** *'Cinquedea' — a large dagger or short sword popular in Italy at the beginning of the 16th Century.* **c** *and* **d** *Typical 16th Century sword hilts, 'd' often found on East European swords.* **e** *A Venetian 'Schiavona' or Stradiot sword.* **f** *'Shable' (sabre). A light cavalry sword copied from the Hungarians and Poles (both around 36 inches long).* **g** *Ferocious in appearance but ineffective in comparison with, for example, a bill, was the 'Morgenstern'.* **h** *Another weapon which had practically disappeared by the mid-16th Century, the Lucerne hammer.*



Maximilian when he carried out his reorganisation of German forces at the end of the 15th Century, and German shields of the type illustrated would probably be rare after this.

Surviving rather longer were the 'buckler', 'target', 'targe', and 'rondarche', all circular, usually convex, and intended to be used in conjunction with a sword; most were 20 to 30 inches in diameter though there were also mere 'fist shields' about ten inches across; a spike or even a pistol was sometimes fitted in the centre. Chief users were the Scots Highlanders, who carried their version into the 18th Century, and the Spaniards, whose agile sword-and-buckler men showed up the *individual* helplessness of pikemen in their victory at Barletta; at Ravenna too, disordered pikemen suffered from their attentions, but they were certainly not always victorious over the pike, and their uselessness against cavalry meant that after about 1520 'targeteers' were largely confined to colour guards, though they could give good service in sieges or close country (the English using them in this way in Ireland, for example). The cavalry problem also doomed dreams of revived Roman legionaries with sword and shield, like those of Machiavelli and Maurice of Nassau.

Shields, sometimes of an oval shape, were often carried by (or for) officers in the 16th Century. This was probably mainly for show, but a shot-proof German buckler of 1603, in the Tower, was presumably meant for use. The earlier wooden shields were heraldically painted, but surviving metal bucklers are either plain steel, or have their surface engraved, or inlaid with other metals.

Eastern infantry still made some use of shields, similar to those of the cavalry of the same areas.

Infantry missile weapons

It has been suggested (by Michael Roberts in *A Revolution in Warfare*) that this period saw a 'catastrophic' diminution in infantry firepower through the introduction of infantry firearms, and others have implied something similar. Any view which suggests that, over a century and a sub-continent, virtually all governments spent vast sums reducing the effectiveness of their armed forces, must be open to question, and the facts do not seem to support this one. In Europe, the only earlier weapon which had any claim to outperform firearms was the longbow, which only one nation used, nor was it probably as effective in practice as 'best' rates of fire and ranges would seem to suggest. Even at its peak, the longbow required stake barricades and support from dismounted men-at-arms against cavalry, just as the firearms of our period required the support of pikes.

A Polish writer similarly suggests that the replacement of crossbows among the Polish infantry with firearms reduced their firepower to 1/40th of what it had been, but again available information on the performance of crossbows and firearms does not support this.

Of the earlier, pre-gunpowder weapons, there were three of any significance, not counting javelins or 'darts', which were used by Irish and Eastern irregular infantry as well as various light cavalry.

The Longbow

The traditional English weapon; though the last great battle in which it was the sole weapon was Flodden, up to the 1560s most English shot were still archers, especially on the Border, where the bow was preferred to the heavier and clumsier arquebus. Statutes to promote the use of the bow (and discourage evil substitute recreations such as shove-ha'penny) were passed up to 1569. After 1589 archers were dropped from the standard company organisation, and they had officially disappeared by the 1590s, though there are a few signs of their use in England in the early 17th Century.

Longbows were often of yew, six foot to six foot four inches overall, and fired arrows up to 37 inches long (though the only surviving example, which comes from our period, is 30½ inches).

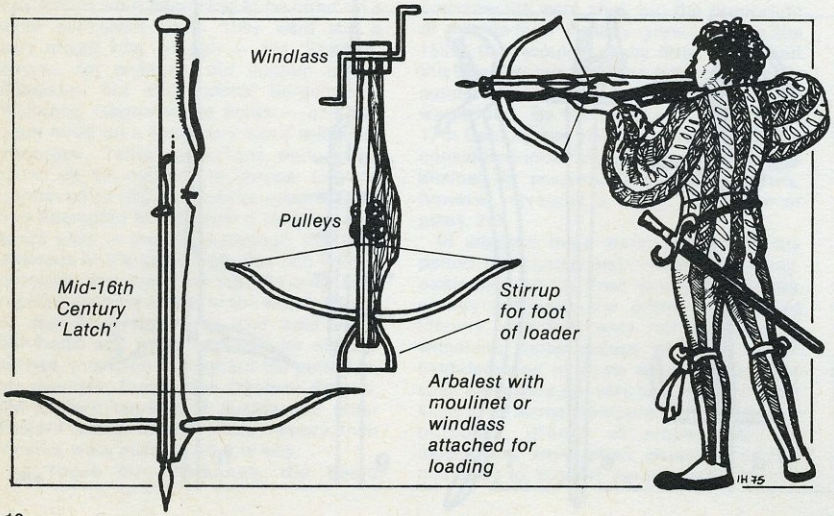
There has been much debate about the performance of the longbow, but it would seem that the absolute maximum range, using the lighter 'flight' arrow (which *was* used in battle, there being usually eight light arrows in each 'sheaf' of 24), was around 300 yards; with the heavier sheaf arrow used for armour-piercing it would be more like 170 yards, while to be accurate against individual targets or to pierce mail it would come down to 80 or 100 yards. The weak points of plate armour could only be picked out at very close range.

The high rate of fire of the longbow was one of its chief advantages — up to six shots a minute was certainly possible, and this was far above the performance of contemporary firearms (in fact Ben Franklin thought the American army of the *18th* Century would do well to go back to the longbow). Its decline in the 16th Century seems hard to explain in view of this very good performance, but one basic cause would appear to have been a growing lack of really well-trained archers — it took a lifetime to make an archer, a few weeks at most to train an arquebusier.

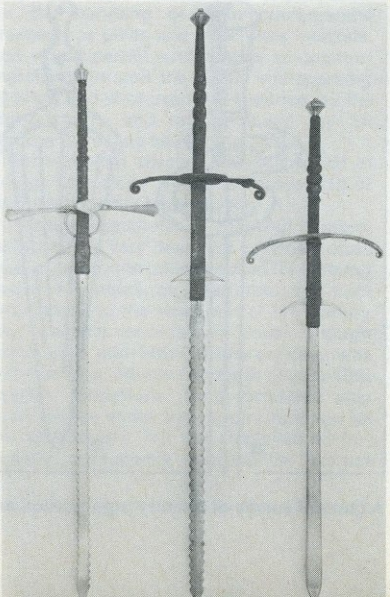
The other major factor, one easy to overlook, is that this is essentially a case of mechanisation — perhaps the earliest example of a major substitution of chemical for muscle-power; a longbow had a pull of some 80 pounds, and the performance of the bow depended entirely on the strength of the archer, whereas a puny and exhausted arquebusier could shoot just as hard and far as a fresh one. Sir Roger Williams wrote that not one in five was 'a good strong archer', and after three or four months' campaigning, not one in ten. Lesser problems were the difficulty of getting fresh ammunition supplies, and the fact that bowmen had to expose themselves to enemy fire when shooting from entrenchments; an advantage was cost — bow with arrows 6s 8d, caliver 16s 8d!

Certainly the longbow in practice seems to have made a fairly poor showing against firearms; the French captain Monluc, for

Crossbows and a German crossbowman of the early 16th Century, showing firing position.



German two-handed swords (Tower of London).



example, claimed that his men had acquired an exaggerated idea of English courage because archers had to approach so close in order to fire! Even enthusiasts for the bow had to admit that Frenchmen and Reiters in battle were apt in contempt to 'turn up their tails and cry: "shoot English!",' though maintaining that an archer of an earlier generation would have had 'the breech of such a varlet nailed to his bum with one arrow, and another feathered in his bowels, before he should have turned about to see who had shot the first'.

In the late 15th Century the French still used the longbow, which they had adopted earlier, to some extent, and similar bows were used by the Scots and the Irish (in the former case being used well into the 17th Century).

The composite bow

The traditional weapon of the East, used by the Turkish infantry at least to the 1680s, and by their cavalry and other Eastern horsemen until much later times. Constructed of laminated horn, horn and wood, or later apparently sometimes of metal, this type of bow was very effective. With half-ounce flight arrows distances of over 600 yards could be achieved, but these were not employed in war, and with the two-ounce, 24 inch war arrow, range would be much reduced — an Arabic archery manual of the period says 175 yards, but Sir Ralph Payne-Galway states that a three-foot composite bow had a 118 pound pull, would shoot a war-arrow up to 300 yards, and would pierce a half-inch plank at 100 yards; for accuracy and armour-piercing, range would be similar to a longbow, and rate of fire would be at least as good.

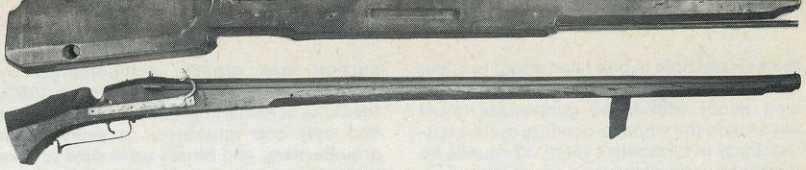
The crossbow

Crossbows were still in very widespread use at the beginning of this period; found in nearly all European armies, they were used both in siege warfare and, by skirmishers, in battle. They were gradually replaced by firearms, which had much the same sort of performance. Marignano (1515) was the last battle in which they played an important role, though the French infantry preferred them to guns until at least 1523, and some remained in use up to the 1560s.

The usual 16th Century type was the heavy 'arbalest', which had a steel bow (often blued) and wooden rifle-type stock, and was 'spanned' or drawn with the aid of a separate windlass. Lighter types or 'latches', spanned with a lever, or a ratchet rather like a car jack, were also in use and would probably have been used by the mounted crossbowmen who were popular during the Italian wars.

The arbalest was as heavy as a gun (the bow could weigh nine pounds, the windlass another five pounds) and *almost* as slow-firing, at one or two rounds per minute. Like an arquebusier, the crossbowman could take cover behind a wall or parapet, and benefit by resting his weapon on it while firing.

A crossbow was very accurate up to some 60 yards, and might have an absolute maximum range of nearly 400 yards; the armour-piercing performance of its short, heavy bolts, while probably not up to that of firearms, would be much better than the other bows, especially against plate.



Two arquebusses. **Above** *An early model.* **Below** *A 17th Century matchlock heavy arquebus. Both in the Tower of London.*

The firearms

The arquebus

Variously named 'hachebuchsen', 'hagbut', 'hagbush', 'harquebus', etc, all meaning hook-gun. The usual explanation of this is that the 'hook' was an attachment beneath the barrel, hooked over a wall or branch to take the recoil, but it seems more likely that it came from the hooked shape of butt or 'serpentine', since these developments were contemporary with the name, while the hook beneath was present on many pre-arquebus guns and absent on the majority of arquebusses.

The chief infantry firearm of the 16th Century, used by mounted men too, it remained in use, for skirmishers and cavalry, into the 17th Century.

The arquebus developed from the clumsy handguns of the 15th Century, probably in Germany, through the development of a simple lock mechanism around the end of the century, by which a pivoted 'serpentine' held the glowing 'match' (cord soaked in a saltpetre solution), and dropped it onto the pan, hopefully firing the gun, when some type of trigger was pressed. This cheap and simple 'matchlock' mechanism was used for nearly all infantry weapons throughout the period, though in fact guns with no lock at all still remained in use in the early 16th Century.

The other critical development was a proper butt; in the 16th Century often held against the chest or cheek (ouch!), later against the shoulder.

In the early 16th Century, arquebusses were of no particular size, the largest being almost light field guns (a German Doppelte-Doppel-Haken was seven feet long, weighed 50 pounds, and fired a six ounce ball to about 500 yards). Such guns needed two men, and were sometimes mounted on carts or walls. There was an unbroken range down to little half-hakes firing a ball of 20 to the pound. The most common types seem to have been about three foot six inches long, firing a 1½ ounce ball, and weighing around ten pounds.

From the 1540s, there seems to have been growing standardisation on two types: the heavier one was the musket (see below), the lighter, what was called in England a 'Caliver' (from calibre, which, originally in France, had become more or less standardised). Such weapons were around four feet long, 12 pounds in weight, and had a calibre of 0.5 to 0.75 inches, firing lead balls of ten to 16 to the pound.

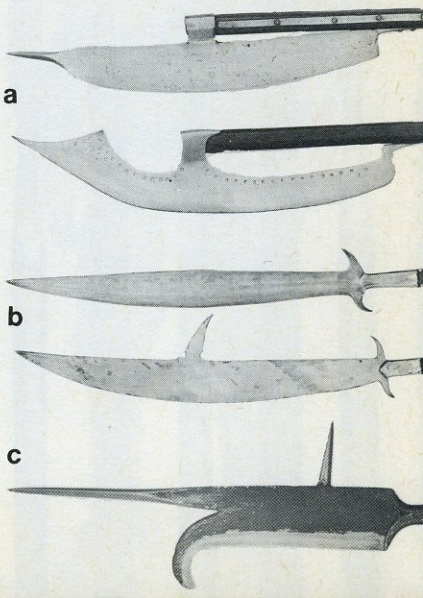
Maximum range of the best Italian arquebusses, carefully loaded, was said to be about 400 yards, but effective range in battle, and certainly *accurate* range, would be much less. A target range at Augsburg in 1508 was 226 yards long, and English caliver-men of Elizabeth's reign were supposed to be able to hit the mark at 200 to 300 paces, so it is reasonable to suppose that arquebusses would be fairly effective up to 150 yards or so, at least against large targets.

Loading was a major problem. 17th Century musket drill included no less than 48 movements, but this gives a somewhat exaggerated idea of its complexity, being intended for training. In battle, 'Make ready', 'Present', and 'Fire' were the only commands necessary. However, it is probably true that loading the arquebus required two hands, the musket, three! The need to

German infantry shield of the late 15th Century bearing the arms of Wimpfen (Tower of London).



a *Eastern European Berdische poleaxes.* **b** *16th Century Glaives.* **c** *A 16th Century Bill* (Tower of London).



remove and hold in one hand about two feet of match, lighted at both ends, while messing about with loose gunpowder, must have made the whole procedure quite exciting. Early in Elizabeth's reign, 12 rounds an hour was apparently considered fair going, and even by the late 16th Century English caliver men only managed 40 shots an hour — and at that they claimed to fire twice as fast as musketeers!

One factor in increasing the rate of fire was the development of the bandolier, from which dangled, usually, 12 wooden cases (nine at the front, three at the back), each with powder for one shot; bullets were carried separately in a bag and priming powder in a flask or horn. Early bandoliers were sometimes worn round the neck, later over the left shoulder. Paper cartridges would have helped still more, but were certainly not used by infantry before the 30 Years' War, if then, although invented in the 16th Century.

The musket

'Musket' was simply the name applied to the heavier and longer-barrelled types of arquebus from about the 1540s onwards; like them it required a forked rest to support it in action, and the early Spanish muskets had a crew of two. The Spanish were the first to use it on any scale; their muskets differed from English, German and French ones in having a straight rather than a curved stock (Sir Roger Williams said that the Spanish type was better for taking recoil).

Even in Spanish service, however, the musket was greatly outnumbered by arquebusses for a long time — in the 1580s the Duke of Alva's armies in the Netherlands had only one musketeer to every seven arquebusiers, and others were slow to take up such weapons at all (the French army did not use them till 1573). By the early 17th Century, muskets were practically universal, though the Spanish retained a good many arquebusiers and were said to have profited, at Nieuport, from their greater handiness. Later reductions in the weight and size of muskets would remove any such advantage.

It is difficult to give very precise details of muskets, particularly as there were 'double' and 'half' muskets in use as well, but a length of about six feet, weight of 16 to 20 pounds, and bullets of about two ounces, would seem to be fairly typical for the 16th Century; in the 17th Century there was a strong trend toward reduction in size and weight, probably initiated earlier by the Dutch. English Civil War muskets, which were of 'Dutch pattern', fired balls of 12 or 14 to the pound, and Gustavus Adolphus reduced the weight of Swedish ones to 11 or 12 pounds. However, muskets retained the long barrel which gave them greater velocity and range than the lighter types of arquebus, and the use of a rest remained generally necessary to about the end of our period.

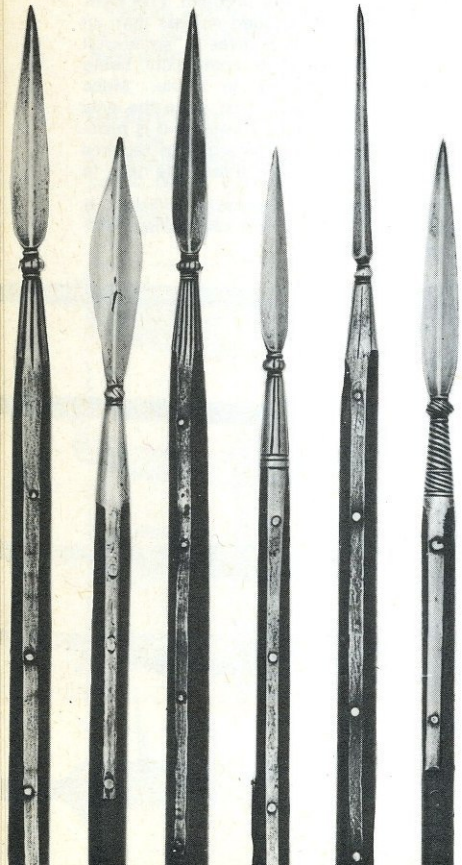
A musket of the late 16th Century could kill a man in 'shot-proof' armour at 'ten score paces', a '*common armed*' man at 20 score, and an unarmoured man at 30 score, and there are many stories of muskets killing at up to 500 yards. They certainly had much greater range than earlier weapons. and (perhaps more important, as one would not expect to hit anything much over 200 yards or so) much higher armour-piercing capability, which was probably the main cause of the decline of armour which took place in the late 16th and 17th Century.

The matchlock had many disadvantages, apart from loading problems; wind blew the match out or the powder from the pan, rain was equally bad; the glowing match gave away night movements (though this had the compensation that a row of matches hung on trees made a good dummy unit for covering night withdrawals) and it could even ignite one of the cartouches on the bandolier, with unhappy results. Some of these troubles were avoided by the snaphance, or early flintlock (like wheel-locks, often referred to as 'firelocks') which appeared in the 16th Century, and offered considerably better rates of fire than matchlocks. Extra expense seems to have confined them to bodyguards, mounted troops and men detailed to guard artillery trains (where burning matches were not wanted near powder barrels), though the Dutch in particular may have made wider use of them.

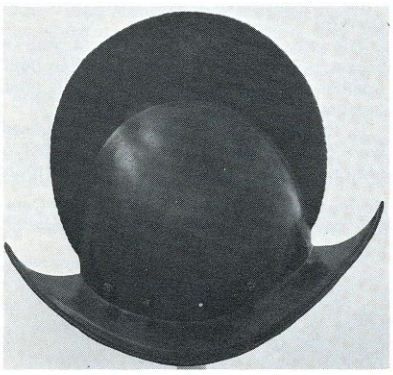
Both match- and flint-locks suffered from the high-sulphur powder of the period, which clogged the bores and often caused bursting, and produced even more smoke than in Napoleonic days; 'getting the wind of the enemy' so that their own smoke blew back in their eyes, was a recommended opening manoeuvre.

Rifling was also introduced in the 16th Century, and offered much higher accuracy (one school of thought attributed this to the fact that devils could not cling to a spinning ball), at the cost of even slower loading and, possibly, reduced range. The number of rifled guns in the inventories of German arsenals of the 16th Century makes it seem as though they were probably intended for military use, and some were certainly used by 'snipers' during the English Civil War.

16th Century pikes (Tower of London).



16th Century morion (Tower of London).





A Saxon Guard bandolier of the early 17th Century (Tower of London).

Formations for firing

Crossbows and composite bows were weapons of open-order skirmishers; longbows were also used like this, but could probably also operate in closer formation, rear ranks shooting overhead.

Firearm infantry, unless they were detailed to form a 'forlorn', were usually formed in 'order'; ranks fired in succession by counter-marching — either the man at the front firing and then going to the rear to reload, in which case the whole unit moved slowly back ('fire by extraduction'), or the man at the rear marching up to the front to fire, when it advanced ('fire by introduction'). In the 16th and early 17th Centuries six to ten ranks deep was usual, to allow time for reloading before getting to the front again.

Shot were most often drawn up as wings on either side of pikes or bills, or two or three ranks deep all round a pike square, but particular national methods, and later developments, are further dealt with under the countries concerned.

3

Cavalry weapons and organisation

Heavy cavalry

At the beginning of the period the fully armoured cavalryman — the often aristocratic Gendarme — still formed the main striking force of most European armies. Protected from head to toe by elaborate plate armour of 'Maximilian' or 'Italian' style, armed with a heavy lance and often riding a charger itself protected by an armoured 'bard', these ultra-heavy horsemen normally charged at the gallop 'en haie' (in line abreast) and, given open ground to charge over, could still smash most infantry other than solid formations of pikemen.

In the French and other forces such men still came to war with what amounted to a small retinue of servants and retainers — the French counted them by 'lances' each consisting of one gendarme and five lighter horsemen — and thus in the early 16th Century lighter and heavier cavalry may have charged together in mixed formation.

Heavy lancers remained in widespread use up to the end of the 16th Century, and in small numbers in, for example, Spanish service, up to the 30 Years' War, and they were employed everywhere from England in the West to Poland and Hungary in the East. Their armour probably tended to become heavier during the 16th Century, since at least the main plates were made 'proof' (against firearms — by the 17th Century breastplates were supposed to be musket-proof and backplates pistol-proof). Certainly armour reached its greatest weight during this period — one Maximilian armour of 1520 weighed 42 lb, and an English armour of 1590 no less than 71 lb, while the armour for horse and man of the Count Palatine, 1530, totals about 120 lb.

Perhaps as compensation for this, horse armour seems to have largely disappeared after the first quarter of the 16th Century (German mercenaries in the service of Henry VIII refused to use horse bards, saying they were cumbrous and only fit for show). Moreover, 3/4 armour replaced full harness, heavy leather boots taking over the protection of the rider's lower leg. In the 17th Century the more heavily armoured cavalry usually wore a rather ugly type of 3/4 armour, with a very short peaked breastplate and long laminated 'tassets' protecting them from waist to knee.

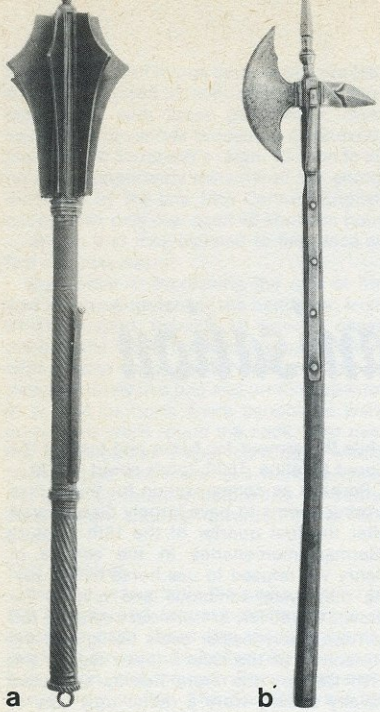
The invention of the pistol (probably in Germany in the 1530s) created an alternative type of heavy cavalryman, the pistolier, who gradually replaced the lancer in the

Early 16th Century gendarmes (from Burgkmair, Triumph of the Emperor Maximilian). *A good selection: note surcoats. Massive plumes like this were more for processions or tournaments, but are sometimes shown in battle pictures* (Victoria and Albert Museum).



17th Century German cavalry three-quarter armour (Tower of London).







Above *Miniature Figurines 25 mm figures depicting Reiters in close order column.*

Left a *16th Century horseman's mace.* **b** *Early 16th Century horseman's axe* (Department of the Environment).

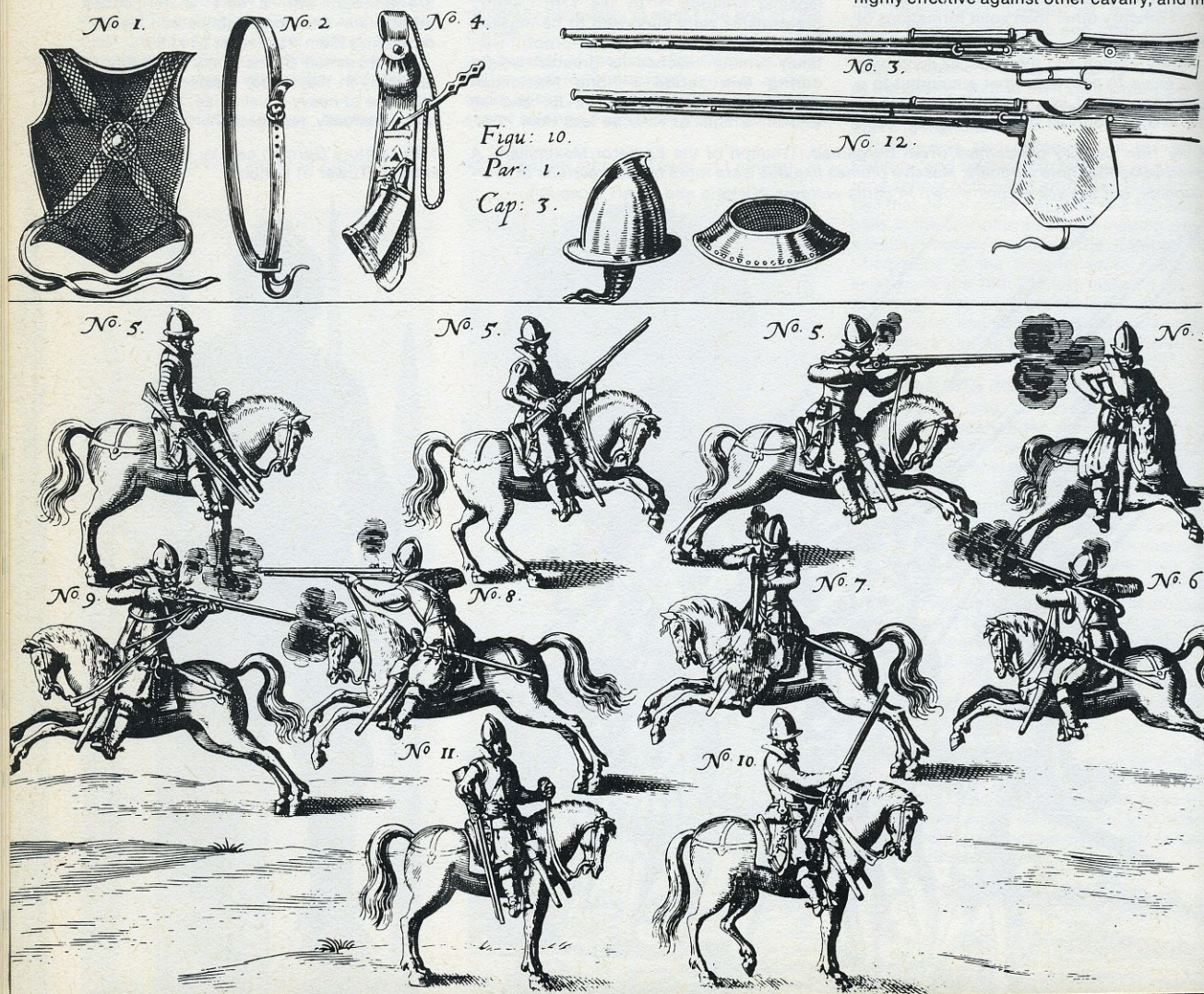
Below *Mounted arquebusiers and their equipment, early 17th Century* (Wallhavsen, Art Militaire à Cheval, 1616).

Below right *Cuirassier armour and equipment, early 17th Century* (Wallhavsen, Art Militaire à Cheval, 1616).

second half of the 16th Century. Armoured similarly, or wearing half-armour, pistoliers formed up in close-packed square, wedge-shaped or column formation. They normally advanced at a ponderous trot, each rank loosing off their pistols when within range, then wheeling to a flank and proceeding to the rear to reload. This tactic, the 'caracole' or 'limancon', has been universally condemned by later military writers, and must certainly have been very difficult to carry out properly under battle conditions; moreover it was not very effective against other cavalry, especially if *they* were prepared to charge home.

However, it did give cavalry some chance of taking on the massive pike-blocks of the period, the pistol fire opening up gaps which could be exploited by a charge. I think this was probably why the pistolier was preferred to the lancer in the later 16th Century. They must have been effective troops or their most famous exemplars, the mercenary German Reiters, would not have been in such demand for so long.

In the French Wars of Religion, Henry of Navarre began to train his Huguenot pistoliers to charge home with the sword, firing their pistols and then hurling them at the enemy at the last moment. This proved highly effective against other cavalry, and in



the 17th Century cavalry operating in this way became very widespread and successful — the 'standard' type in fact. The charge finished at the gallop and there was a tendency toward the lightening of the armour of such horsemen, either to breast and back plate and open 'pot' helmet, or even to just a buff (leather) coat and plumed hat; in this period dealing with enemy cavalry had become the main cavalry task. Trotting pistoliers in heavier armour also survived, one example being the Parliamentarian cuirassiers or 'lobsters' of the English Civil War.

Cavalry charging at the gallop were drawn up five or six ranks deep in the early 17th Century, later sometimes in three ranks. They were often supported by small groups of 'commanded' musketeers, interspersed chequer-board fashion between their squadrons.

The wheel-lock was a relatively delicate and expensive mechanism and so did not catch on as an infantry weapon, but was a godsend to the cavalryman, providing, as it did, a weapon which could be fired one-handed. It was quickly applied to arquebusses, pistols, and petronels (a 16th Century cavalry gun of intermediate size). Cavalry also used flintlocks in the later part of the period.

Favourite cavalry pistol was the German 'Faustrohre' type — barrel 18 inches long, firing a ball of 20 to the pound, and weighing about 5 lb. Having a nearly straight butt with a very large round pommel, it was well-suited to clubbing the enemy as well as shooting them. When fired, pistols were normally held on one side, lock upwards, to make sure that the priming powder communicated with the touch-hole. A long-barrelled one of this type might be accurate up to 20 yards or so and unaimed fire might be effective up to 50 yards or more against a really huge target, though in 1587 de la Noue wrote that effective range was three paces!

Cavalry arquebusses, carbines, dragons and the like varied in size, but seem to have been usually shorter and of wider calibre than equivalent infantry weapons. Markham, in his *Souldiers Accidence* of 1625 stated that a 'dragon' should have a 16 inch barrel, and in the 1640s a dragoon was said to have a musket with 'something a wider bore than ordinary'. A French carbine or 'scoppette' of the 1550s has a barrel about 17 inches long and a bore of nearly an inch! Such weapons would be a little more accurate than pistols (especially the shorter-barrelled type called 'dags' in England) but still would not be effective at any great distance, especially if fired from the saddle. I would think 100 yards or so the maximum range at which any damage could be done.

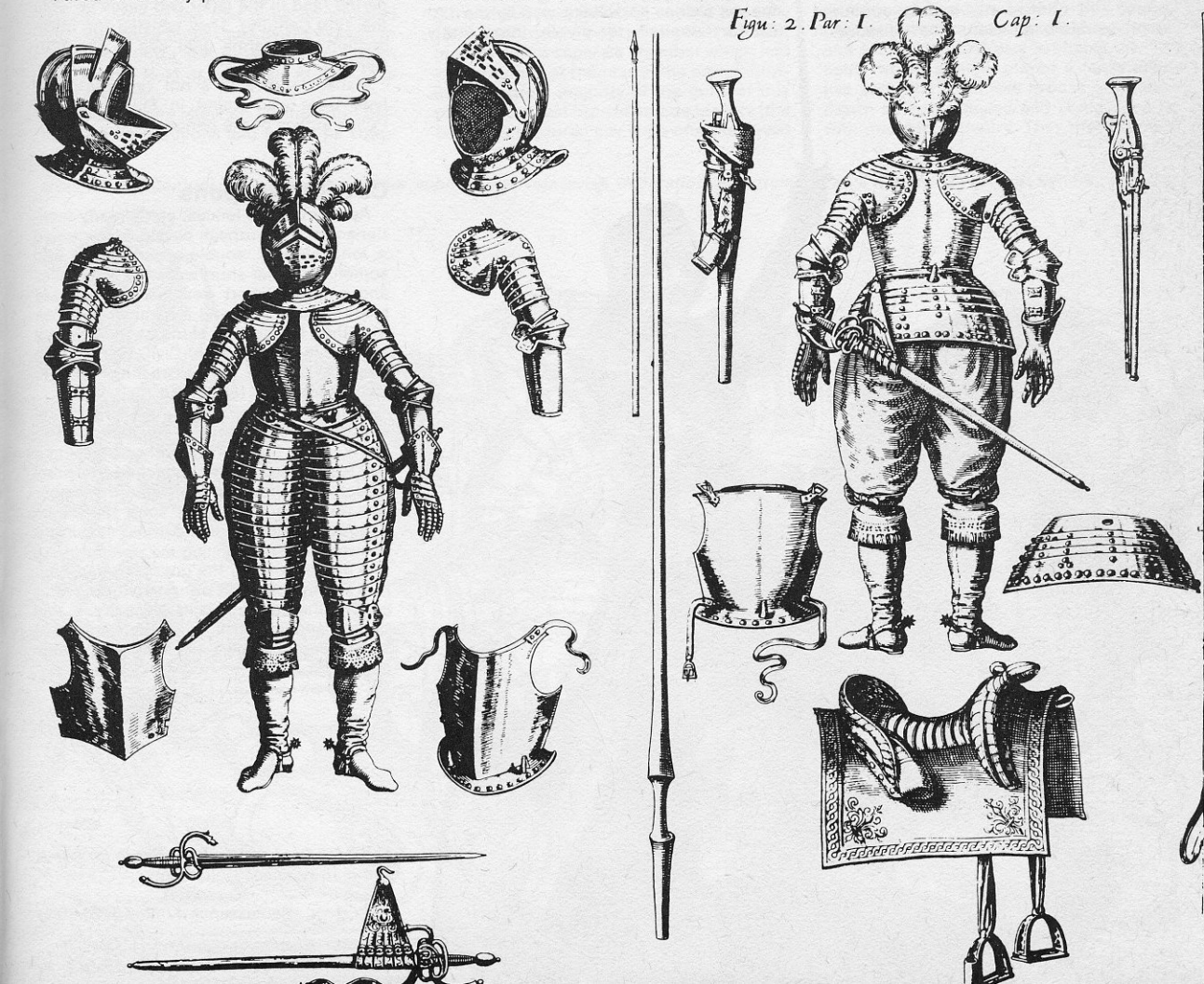
During the English Civil War rifled pistols were popular with officers. They were very accurate (Prince Rupert showed off by hitting a church weather-cock with a shot from one) but they don't seem to have been used in other countries.

Cavalry organisation

In the 16th Century heavy cavalry seem usually to have operated in tactical units, sometimes referred to as squadrons, of 400 to 1,000 men (the higher figures referring particularly to pistoliers). These were probably *ad hoc* rather than permanent formations. In the later 16th and the 17th Century the basic cavalry unit was a troop (sometimes called cornet, squadron or ensign) of from 60 to 120 men; from four (Dutch) to eight (Scots Covenanters) troops might be formed into a regiment, but until the second quarter of the century such regiments would not be permanent formations.

Proportion of cavalry in armies

Throughout the period this would be very high indeed in Eastern armies; Tartars would always, and Persians and Mamelukes usually, have 100 per cent cavalry. The



Turks generally backed their cavalry with foot soldiers but normally employed more horse than foot, and in their standing army cavalry outnumbered infantry. The same would be generally true of Eastern Europe — Muscovy, Poland and Hungary.

In Western Europe there was some variation between nations — the French in the 16th Century usually fielded a lot of cavalry, the Spanish and English were generally short of horse — but there were some general trends. In the Italian Wars period the proportion of cavalry tended to fall (France from 2/3 to about 1/11, Spain from 1/5 to 1/12). This may have been caused by the successes won in these wars by artillery and arquebus, temporarily placing cavalry under a cloud, because there was a later recovery. Henry IV of France in 1609 had about 1/7 cavalry in his regular army; and Imperialist armies of the 30 Years' War seem to have had up to 1/3 cavalry. This proportion was stated to be the ideal by General Monck, and was actually achieved in the Parliamentary 'New Model Army' of 1664, while the Cavaliers often had a higher proportion, up to nearly 50 per cent.

Light cavalry

'Light' cavalry, usually armed with the lance, and often pretty heavily armoured were, as has been seen, often raised with gendarmes in the early 16th Century, and such troops were soon separated into groups of 'chevaulegers' or similar. However troops of this type, like the English 'demilances' of the period, were really heavy cavalry using similar tactics to the gendarmes.

True light cavalry, with high mobility, loose open-order formations, and a skirmishing function in battle, were at the beginning of the period found only in the East (where they were universally unarmoured horse-archers with composite bows) and in areas influenced by these Easterners, like Poland and Hungary (horse-archers too), Spain (Genitors) and Italy, where the favoured types were mounted crossbowmen and the originally Albanian 'Stradiots'.

The development of firearms which could be employed on horseback gave rise to a new breed of light cavalry during the Italian Wars (though very primitive handguns had been used by some cavalry by the mid-15th Century). Mounted arquebusiers seem to have been first used by the Condottiere Camillo Vitelli in the 1490s, and were quite widespread by the mid-16th Century, when the French even had élite troops of this type.

Such cavalry were trained to skirmish on foot as well as horseback, and by the 17th Century tended to divide into, firstly, Dragoons, who were really mounted infantry, and secondly troops still called 'Arquebusiers', 'Carabineers' and so forth, but who had actually managed to turn themselves into heavy cavalry, armed with sword and pistols, rather than with the weapons from which they derived their names.

Eastern Europe continued to provide light cavalry in the 17th Century, and by the 30 Years' War recognisable prototypes of later light cavalry such as hussars were already to be found in Imperial armies. Most carried curved single-edged sabres originally derived from Tartar or Turkish swords.

Eastern cavalry

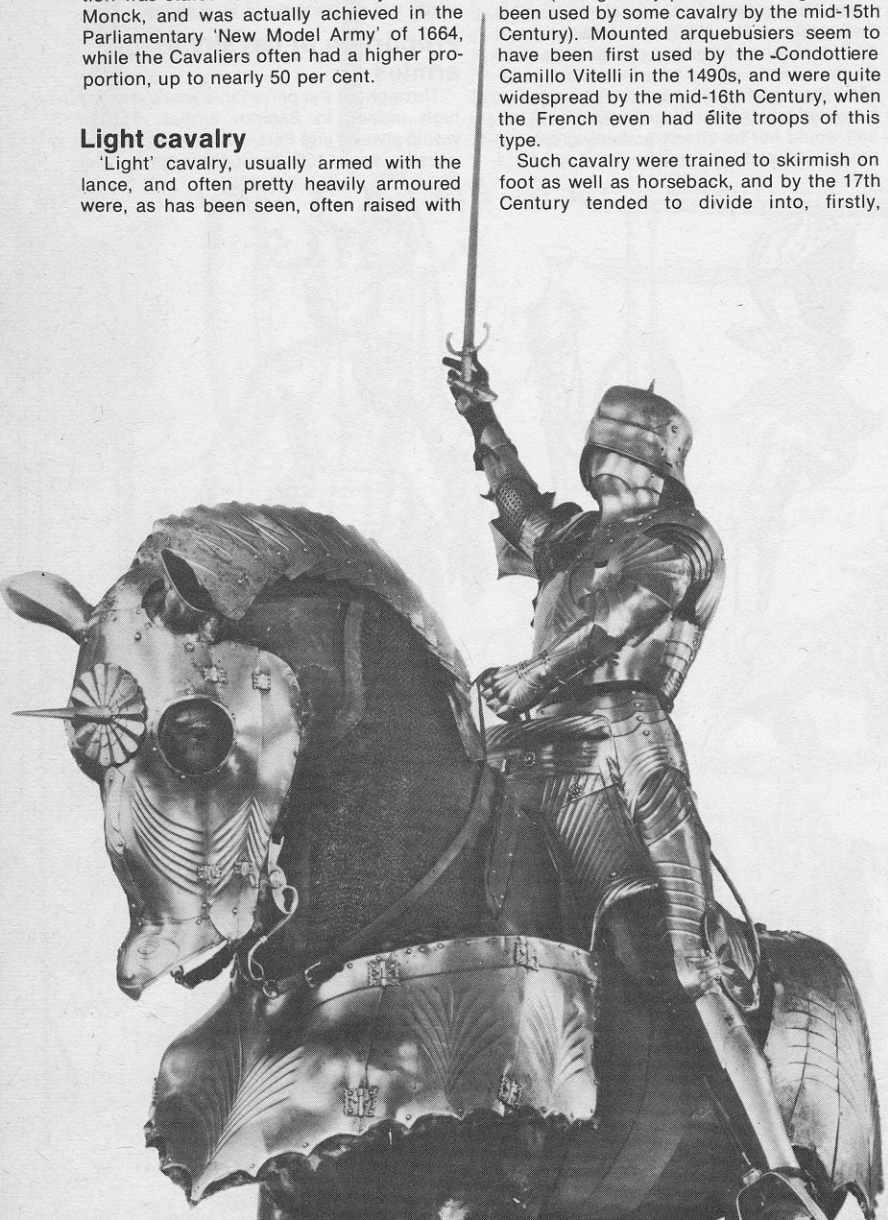
The main type, apart from the light horse-archers already mentioned, was a heavy lancer, armoured in a combination of mail and plate and carrying a light 12 foot lance (similar to that used by English, Scottish and Spanish light cavalry into the 17th Century). Such a horseman would also normally carry the composite bow and perhaps a shield and might ride an armoured horse. Troops of this kind were employed by the Mamelukes (the best), Turks, Persians and Indians throughout the period (and in the latter two cases up until the 19th Century). They resisted the introduction of firearms until late in the 17th Century.

Mailed lancers of a not very dissimilar type were also found in Muscovite and Polish armies of the period.

Cavalry weapons

Apart from the lances, etc, already mentioned, most European cavalry also carried a long straight double-edged sword and sometimes other short weapons like maces and pollaxes (short weapons with an axe blade on one side and a hammer-head on the other, still carried, slung on the wrist, by cavalry in the English Civil War). Some Eastern cavalry had extra-long straight swords intended for armour piercing.

Cavalry firearms became really practical with the invention of the wheel-lock (Germany, about 1517). This worked by using a key to wind up a spring attached to a steel wheel with serrated edge; when the trigger was released the spring spun the wheel against a piece of iron pyrites, causing a shower of sparks, igniting the powder in the pan and thus firing the gun (provided, that is, it had not been left wound up for too long so that the spring lost its elasticity — this could happen overnight as the Parliamentary General Lambert was saddened to discover).



Late 15th Century (Gothic) armour for horse and man (Wallace Collection).

4

The artillery

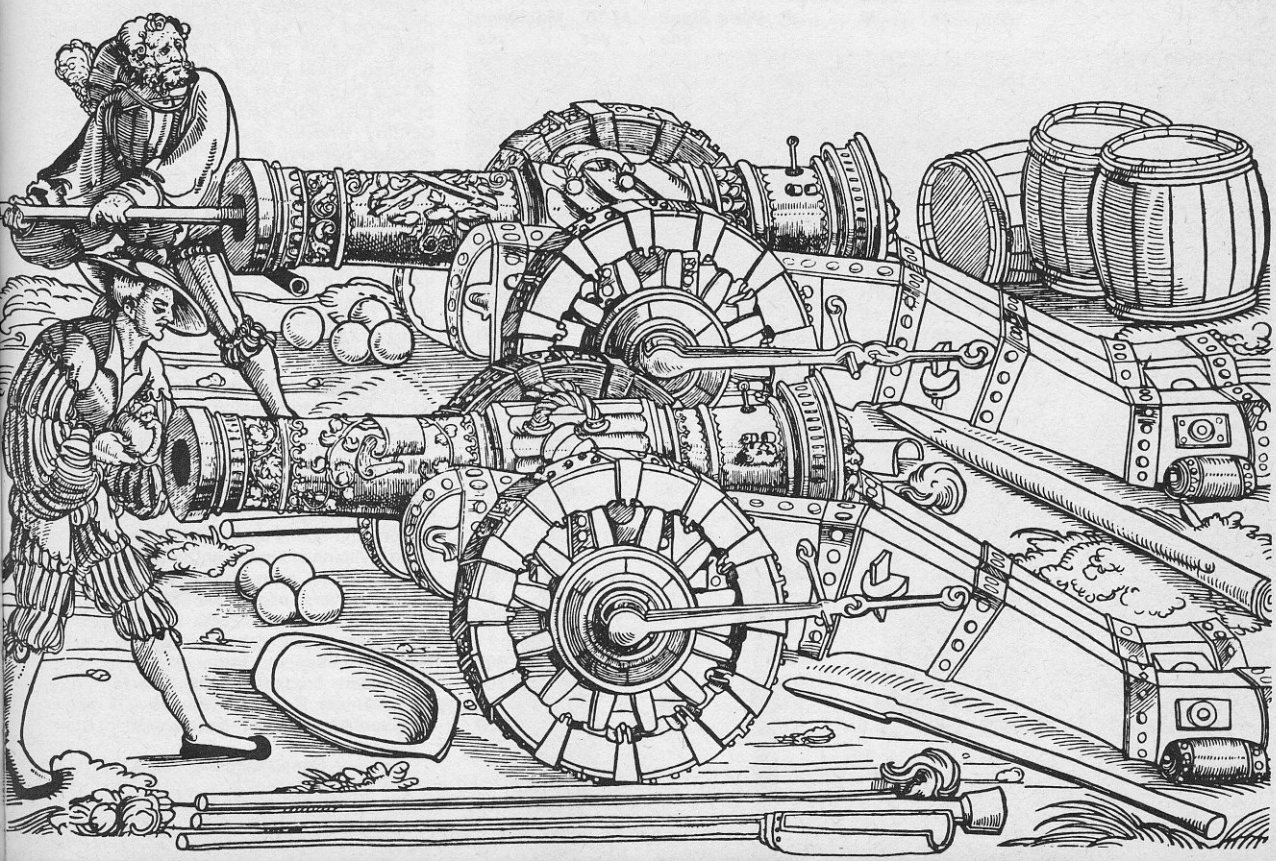
Guns were already essential for siege warfare, and although they were slow-firing and very immobile they had also been successfully employed on the battlefield before the 16th Century, notably in the wagon-riding Czech armies of Jan Ziska, and by the French in the later stages of the 100 Years' War. Early cannon were usually on static mountings, and a crane, for lifting, and wagons, for transport, remained essential parts of the artillery train well into the 16th Century (in 1527 the Emperor Maximilian still had six heavy guns like this, though his 105 lighter guns were all on wheeled carriages). Among the first guns on wheeled carriages were those used by the French in 1461, and those the Swiss captured from Charles the Bold of Burgundy in the 1470s (and still hold).

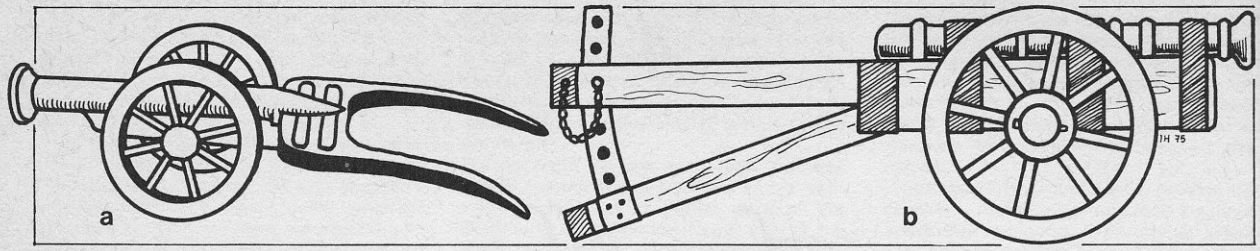
Up to the very late 15th Century gun barrels had no trunnions and had to be strapped to their carriages with iron bands, thus elevation had to be achieved by providing some way of tilting the carriage (including digging one end into the ground), and many early 16th Century guns were like this, though the introduction of cast-on trunnions produced a more modern type of carriage for some guns, the barrel being raised or lowered independently, usually by means of wedges inserted under the breech end with a handspike.

In the 15th Century many large guns were of built-up construction, with wrought-iron bars and rings welded together, and siege-guns of this type were still used in the early 16th Century — they were often breech-loaders with a separate chamber which had to be wedged at the rear of the barrel; however the great majority of the guns of this period were cast bronze muzzle loaders (the bells of a captured city were often reserved to the master-gunner for their construction). By the 1540s cast *iron* guns were successfully produced in Sussex, and later were made in Sweden and Holland as well; they were only one-quarter the price of bronze guns, but were a lot heavier and were regarded with grave suspicion owing to their habit of bursting without warning (if a bronze gun did burst, it usually showed a tell-tale bulge first, and the greater difficulty of casting an unflawed iron barrel probably made failure more frequent than with bronze).

The first fully mobile and effective field artillery appeared in 1494 in the train of Charles VIII of France when he invaded Italy, and Fornovo (1495) was probably the first battle where artillery played a really effective part. The eight foot bronze guns were drawn by horse teams and could keep up with marching infantry. They made a great

German 16th Century field guns with gunners' implements. Note lavish decoration on barrels! (From a woodcut by Erhardt Schoen, 1514-50).





a *Light field gun with shafts on carriage of the later 15th Century.* **b** *Sketch showing elevating carriage for gun without trunnions, late 15th Century.*

impression on the Italians whose few heavy pieces, being ox-drawn, usually arrived too late for battles and, according to Machiavelli, could never fire more than one or two shots before battle was joined. The Spanish defeat at Ravenna (1512) was largely due to the French train of 30 guns, plus another 24 belonging to their ally the Duke of Ferrara, and the Spanish themselves on this occasion fielded 20 pieces.

There was a great variety of guns in use (Henry VIII used no less than 11 different calibres at his siege of Boulogne), and an even greater variety of names very imprecisely applied to them by writers of the time, but a number of basic types can be distinguished by the mid-16th Century. The cannon was a wide-bore, short gun (Sir James Turner in *Pallas Armata* said cannon were 'not above 18 or 19 diameters of their bores in length'), intended for smashing down walls at a range, preferably, of only 200 yards or so; culverins were longer, higher velocity weapons of longer range, and most field guns fell into this category; mortars and perriers were short-barreled high-trajectory weapons, mainly for siege work; and there were also various 'Ribaldquins', organ-guns, 'shrimps', 'carts of war', and so on; basically these last were multiple guns mounted on a common carriage, sometimes with some form of protection for the crew; shrimps were really siege weapons with a couple of light guns, organ guns could have as many as 36 barrels and were a sort of forerunner of the machine-gun, while several variations on the light-cart-with-heavy arquebusses theme around the mid-16th Century seem to have been intended more as light artillery for the close support of infantry. Multiple guns were used as late as the English Civil War, 'two barricades drawn on wheels, in each seven small brass and leathern guns charged with case shot' being captured by the Royalists in 1644.

There were attempts at standardisation during the 16th Century, the earliest being by Charles V, who in 1544 ordered the following to be the standard types in Imperial and Spanish armies: 40 pounder Cannon, 24 pounder Cannon Moyane, 12 pounder Culverin (two types of different lengths), 6 pounder Culverin (two types of different lengths), and 3 pounder Falcon.

In 1550 Henri II instituted the famous 'Six Calibres of France', of which some details are given as follows: 33 pounder Cannon; 10 feet 6 inches long; team 21 horses. 15 pounder Culverin; 11 feet long; team 17. 7 pounder Bastard Culverin; 11 feet; team 11. 2 pounder Culverin Morayne; 8 feet 6 inches; team 4. 1 pounder Falcon; 7 feet 6 inches long; team 3. 3/4 pounder Falconet; 7 feet long; team 2.

Later efforts in this direction were probably rather more successful — Maurice of Nassau reduced the guns of the Dutch army to four types at the end of the century (48, 24, 12 and 6 pounders, plus infantry guns which were 3 or 4 pounders).

Some general information on guns of the time is summarised in the table.

Even on wheeled carriages, the guns of the period had very limited mobility, only partly because of the dreadful roads; a Scottish 'Great Culverin' of 1513 required no less than 36 oxen, and English Culverins of the Civil War needed nine horses. 16th Century wheeled guns were sometimes dragged barrel-first, with the trail *literally* trailing. Otherwise a pair of shafts was normally attached to the trail and the strongest horse harnessed between them, the other horses or oxen being harnessed ahead of it on traces, either in pairs or in tandem. The limber, in the form of a pair of wheels pivoted beneath the trail of a gun, came into use in the 16th Century, in the Spanish and Imperial forces (and, under Maurice of Nassau, in Holland) at least, but does not seem to have been used everywhere; probably it hadn't spread to England by the time of the Civil War.

Ammunition for immediate use was sometimes carried in a pentroofed chest on the gun trail by the late 16th Century, but separate ammunition carts were more usual. Drivers and teams tended to be temporarily hired civilians of limited enthusiasm, except in the Turkish army, which already had a regular drivers' corps, the 'Top Arabacis', 3,000 strong. These Turks walked beside their teams, perhaps because the Turks favoured heavy and rather immobile guns which were probably mostly ox-drawn, but 16th Century European drivers are often depicted riding the left-hand horses of their

Table of Ordnance

Piece	Weight lb	Shot lb	Bore in	Length ft	Ranges Point Blank yds	Ranges At 10° yds	Ranges Maximum yds
CULVERIN TYPE							
Esmeril, rabinet	200	0.3	1.0	2.5	200		750
Robinet	200	1	1.25	—	200		—
Serpentine	250-400	0.5	1.5	3.0	250		1,000
Falconet	500	1-2	2.0	3.7-6	280		1,500
Bombard (1512)	600	—	3.5	9.0	—		—
Falcon	800	3.0	2.5	6-7	320-400	1,920	2,500
Minion, DemiSaker	1,000-1,100	4.5-6	3-3.3	6.5-8	450		3,500
Passe Volant (also name of smaller gun)	3,000	6.0	3.3	10.0	—		4,500
Saker	1,500-1,600	5.5-9	3.25-4	7.0	360-500	2,170	4,000
Culverin Bastard	2,299-3,000	12	4.6	8.5	600		4,000
Demiculverin	3,000-3,400	10	4.2-4.5	8.5	400-850	2,400	5,000
Culverin	4,000-4,800	15-19	5.2-5.5	11.0	460+	4,000	6,700
Culverin Royal	7,000	32	6.5	16.0	2,000		7,000
CANNON TYPE							
Quarter Cannon	2,000	12	4.6	7.0	400		2,000
Demicannon	4,000	24-36	6-6.5	11.0	450		2,500
Bastard or Spurious Cannon	4,500	42	7.0	10.0	400		2,000
Cannon Serpentine	6,000	42	7.0	12.0	500		3,000
Cannon	7,000	50	8.0	13.0	600		3,500
Cannon Royal Curtowe	8,000	60	8.5	8.5-12.0	750		4,000
Double Courtant	7,300	80	11.0	—	—		—
Basilisk	12,000	90	10.0	10.0	750		4,000
MORTARS Etc							
Cannon Perier	3,000	24.5	—	—	—		1,600
Pedrero (medium)	3,000	30	10	9.0	500		2,500
Mortar (medium)	1,500	30	6.3	2.0	300		750
Mortar (heavy)	10,000	200	15.0	6.0	1,000		2,000

teams. Very light guns sometimes had a trail consisting of two shafts — a 15th Century example is shown — and similar carriages were in use up to the end of the 17th Century.

Organisation

Normally, all the artillery of an army would form a single Train under a Master-General of the Ordnance (Topji-Pasha in the case of the Turks) who would also be responsible for deploying them in battle. The first separate artillery units I have come across were the regiments formed in the Swedish artillery by Lennart Torstensson, Gustavus Adolphus' 27-year old artillerist; each had six companies, four of gunners, one of engineers and one of pioneers. In the English Civil War a demi-cannon (about the heaviest piece ever used in the field) had a crew of three gunners and six matrosses (gunner's mates); a culverin two gunners and four matrosses, lighter guns down to three men. A Royalist Artillery Train had 275 carters, 200 pioneers, and 44 'Conductors' to 69 gunners and 88 matrosses; these would probably be fairly average proportions.

The Turks liked to mass their guns in line, often chained together and sometimes placed in reserve behind a line of cavalry to engage any enemy breaking through; tactics which proved very successful against the Persians at Chaldiran (1514) and the Hungarians at Mohacs (1526).

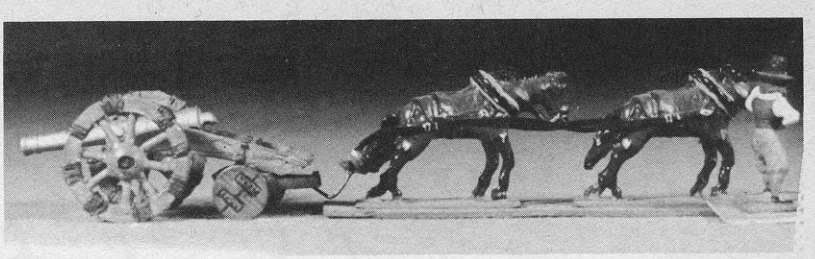
Among European armies guns would probably be placed to the rear of an army if suitable high ground was available, often scattered at 50 or 100 yard intervals. Concentration of guns to fire on a decisive point was unusual, probably because only the lightest had any tactical mobility, the rest having to stop in their pre-battle positions. However it did sometimes happen — for example at Cheriton in the English Civil War where the Royalists concentrated their guns to support their attack on Cheriton Wood.

Most often, throughout the period, guns were drawn up in front of the army, which seems to imply that they were expected to play their main role before the armies moved to join battle. Very light mobile guns which could accompany advancing infantry appeared by the 17th Century; they are usually attributed to Gustavus Adolphus, but I think that some of the very light guns employed earlier must have been used in a similar way. Other armies, including the Roundheads and the Scots Covenanters, followed the Swedes in attaching such weapons to infantry units.

A very effective tactic in the early 16th Century, used by the French in Italy and also by the Teutonic knights, was to stop and pin enemy forces by a series of controlled cavalry charges, so that artillery fire could destroy them.

Effectiveness

Artillery was decisive in some battles, such as Marignano (1515) and Pinkie (1547) and was always useful except in very difficult terrain such as that of Ulster, and nearly all European and Middle Eastern armies of the period employed as much as they could afford. Accuracy was very limited over about 300 yards (1/4 inch 'windage' was allowed between shot and bore) and rates of fire were not high, probably because guns were loaded with shovelfuls of loose powder from a barrel (usually closed with a leather cover with a drawstring).

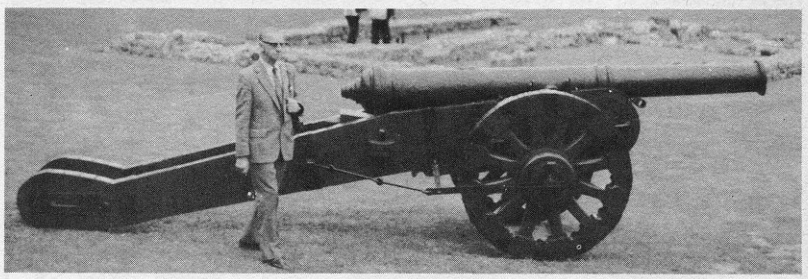


Miniature Figurines models of a 17th Century Saker with early type of limber, and crewman.

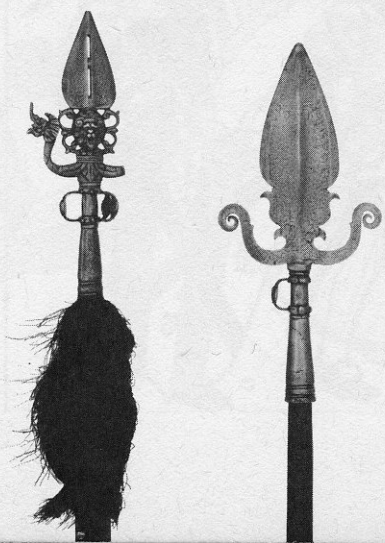
Cartridges, though known, were not apparently used much until the advent of Gustavus' regimental guns, which, using them, achieved rates of fire of up to three rounds a minute — faster than a musket. William Eldred, in *The Gunners' Glasse* (1646) gave eight rounds per hour as the average, though other evidence seems to show that quite large 17th Century guns such as culverins could manage ten rounds an hour; 'Drakes' (guns under 5 pounders) of the same period achieved 15 rph. For safety, a gun was supposed to fire only a limited number of shots per day, or at least before having a cooling-down period (for example, a 20 pounder culverin of Henry VIII was limited to 36 rounds a day). The usual missile was an iron cannon ball, though enormous stone shot were still favoured by the Turks. Case-shot (lead balls in a canister) is first recorded from 1410, and was used at close range against attacking troops, especially by light and multiple guns. Chain shot was used in special circumstance (for example to sweep troops off a beach) and mortars already used explosive shells, though this could be a highly dangerous business.

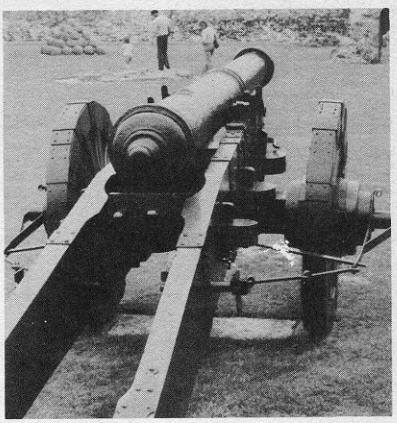
The very deep infantry formations common in the 16th Century probably made very good targets for artillery, cannon balls ploughing through several ranks at a time, and another useful effect was the frequent 'stinging' of not over-disciplined troops into disastrous attacks by steady artillery fire. Field fortifications, lying down and 'double distance' were employed to counteract artillery fire.

Two views of an Elizabethan demi-culverin on replica carriage at Pevensey Castle. Bore 4½ inches, overall length of barrel 11 feet 1 inch, track 45½ inches, wheel diameter 52 inches, overall length about 18 feet.



Artillery linstocks of the early 17th Century (Tower of London).





5

The Burgundian army of Charles the Bold

Charles the Bold, the warlike last Duke of a powerful independent Burgundy, was the chief military innovator of the late 15th Century, and his armies show very clearly the beginning of the transition between feudal levies (albeit paid) and independent mercenary bands, and the emerging standing armies of the new age. They were the first army to be placed on a largely regular footing, contained numbers of specialist mercenaries, made large-scale use of both artillery and hand firearms, and Charles' military Ordinances, demanding strict discipline and, another innovation, regular drilling and exercising of the troops, became the basis for those of many 16th Century armies.

Charles in fact started with basically feudal forces, found, like the English and French before him, that they must be paid in order to be kept on foot for a lengthy campaign, and, in 1471, took the further step to a standing army, by forming 'Compagnies d'Ordonnance' of 600 men-at-arms, on similar lines to the French (see Chapter 13). These, increasing to over 1,700 by 1476, formed the chief strength of the Burgundian army. As was usual, they were formed into companies, each of 100 'lances', in the Burgundian case sub-divided into four squadrons of 25. A 'lance' consisted of the Gendarme or man-at-arms, fully-armoured and equipped with a heavy lance (Burgundian ones were supposed to have at least frontal armour for the horse and seem sometimes to have had shields); a coustillier — in this case armed with javelin and sword and thus perhaps intended to act as a light cavalryman; a page; and no less than *three* mounted archers: in Charles the Bold's army these were still mounted infantry, not the cavalrymen they afterwards became, even their secondary weapon — a two-handed sword — being unsuitable for mounted use. Many of them were English longbowmen. The archers operated separately from the men-at-arms, in their own 100 man companies, the 'lance' in fact, in this army as others, being a sort of administrative hangover from the feudal noble and his followers.

In his last campaigns, Charles added three infantrymen — a culverinier or handgunner, a crossbowman and a pikeman — to each lance, but again they would operate separately, and this was more of an administrative measure, showing that the bulk of the army, infantry as well as cavalry, had become regular, paid, troops — 'of the Ordinance'.

Burgundian feudal levies still remained, and Charles hired various mercenaries: apart from the English longbows mentioned, there were French men-at-arms, German hand-gunners, and large numbers of Italians (including Savoyards — Savoy being at first an ally and later almost a satellite of Burgundy). The Italians included men-at-arms, mounted crossbowmen, and infantry; in the later years they formed a very large part of the army, and Charles formed one 'battle' entirely of Savoyards, another of Italians.

In his earliest wars, Charles had levied Flemish citizen pikemen, equipped with jack and sallet helmet, from the towns of the Low Countries. Though they had in the past scored victories over men-at-arms, they were a military disappointment, and as argumentative and unwilling as the feudal men-at-arms, so were replaced in later years by mercenary pikemen, some of them probably from the same area. To judge by pictures, these latter were rather more heavily armoured, but still failed to stand up to the Swiss.

The Infantry of the Ordinance were organised in 1,000 man companies, which were possibly tactical units, though in 1476, when Charles divided his army into eight



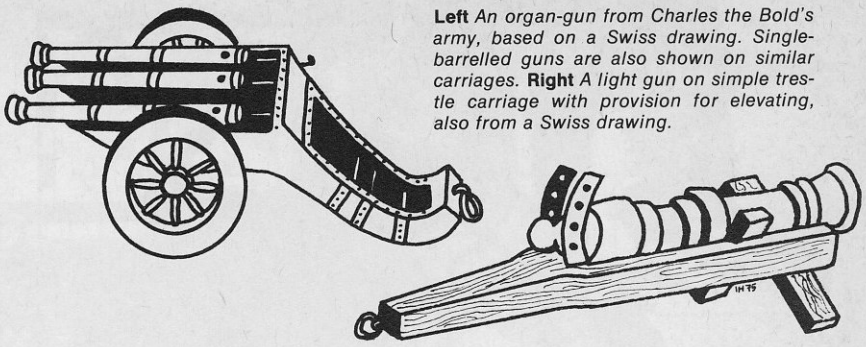
a *Burgundian pikeman wearing corselet with large pauldrons and short fauld. In accordance with regulations, his right arm is armoured, his left not, but bearing a small buckler. His rather low-crowned pot helmet is perhaps linked with his Flemish origin. (Contemporary pictures do not necessarily show shields in use.)* **b** *Burgundian handgunner carrying a primitive 'culverin'. His tunic has red crosses on sleeves, chest and back. Tight hose with prominent codpiece. Soft leather shoes with flap at front. Knapsack rather than later bandolier. From his 'barbute' type of helmet, he could be an Italian.* **c** *So could this crossbowman. His shield is about three feet high and nearly two feet wide at the top. It is made of wood, covered in leather, and has red and white stripes. The cross is probably a darker red, and the flint-and-steels probably gold.*

'battles', six of these consisted of a centre of 500 infantry with cavalry wings. The infantry, as distinct from the mounted archers, were probably supposed to be of equal numbers of pikemen, hand-gunners, and crossbowmen, but in 1472 at least, the pikes were up to strength, but the hand-gunners only a third, and the archers only half, their number. On occasion the pikes and archers were intermingled, by fours, in action, though the pikes were also trained to form up in front, kneeling down, with the archers shooting over them.

Charles's army, finally, contained a Ducal 'Household' of over 2,000 men, which eventually consisted of, firstly, eight 50-lance companies of men-at-arms, four being of the bodyguard, four of the Court; secondly, their corresponding archers, all English, about 800 strong; thirdly, eight 100-man companies of Household infantry (half 'ordinary', half 'extraordinary'); and fourthly, a company of 40 Gentlemen of the Chamber, guarding the Duke's standard.

As might be expected in this early period, figures for the overall strength of the Burgundian army are rather conflicting, but shortly before the disastrous defeat of Morat, 1476, his army consisted of: 1,741 men-at-arms (including 500 of the Household); 4,062 mounted archers (including 1,377 English; probably also mounted crossbowmen); and 4,445 infantry: 10,248 total. However, Burgundian feudal levies and Savoyards would bring this up to something between 12 and 15,000 altogether.

In addition to horse and foot, Charles brought into the field a great quantity of artillery; he was not the first commander to do so, and its presence was partly due to the fact that he made a practice of being caught by the Swiss while undertaking sieges, but a 'modern' feature was the use of considerable numbers of handy light pieces on wheeled field carriages; a few guns even had trunnions, though the majority were rigidly attached to their carriages, some of which, known as 'Burgundian carriages', had built-in provision for elevation and depression. Many of the lighter guns also used the latest iron cannon balls.



Left *An organ-gun from Charles the Bold's army, based on a Swiss drawing. Single-barrelled guns are also shown on similar carriages.* **Right** *A light gun on simple trestle carriage with provision for elevating, also from a Swiss drawing.*

Alas for Charles; with all his genius for organisation and military zeal, his career as general, once he came up against the Swiss, was one of unbroken disaster, contributed to both by his own rashness, and by a certain lack of enthusiasm and cohesion in his multi-lingual army. Charles' misfortune is, in a sense, our gain, however, for the victorious Swiss captured, and have largely preserved or recorded, an extraordinary mass of booty which constitutes a unique body of military evidence from this period.

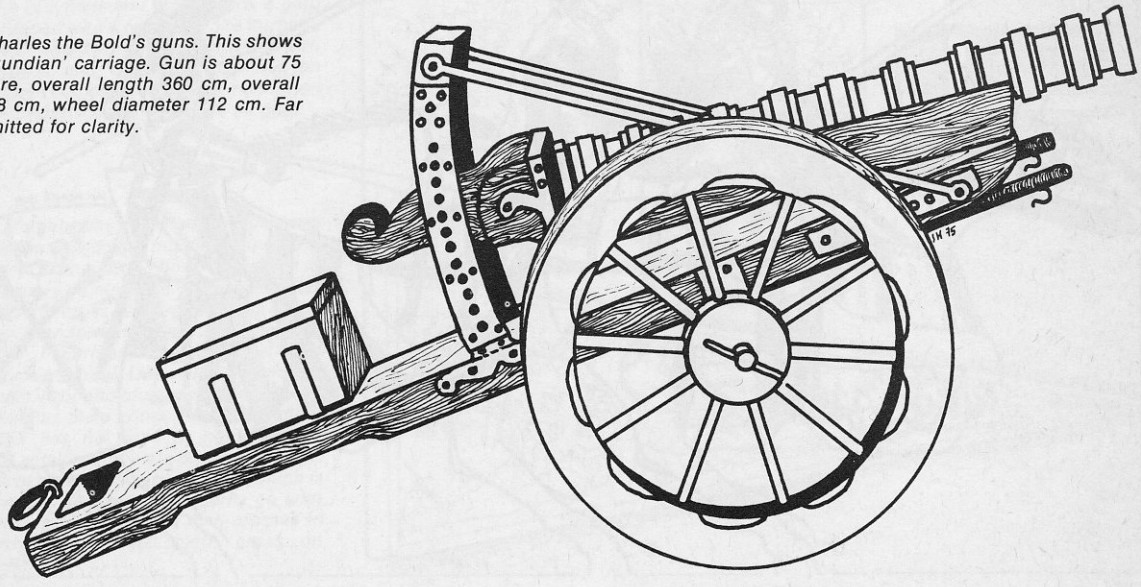
Flags and dress

Charles seems to have aimed at a degree of uniformity, at least among the troops of the Ordinance. The men-at-arms were ordered to wear blue and white plumes (the Ducal colours) and were supplied with red crosses of Burgundy, made of velvet, to attach to their armour. The Coustilliers and archers were given surcoats half white and half blue, again with the red cross, and there is evidence from the end of the reign that infantry of the Ordinance also wore blue and white Ducal uniform.

The red cross of Burgundy, strictly two 'ragged staffs' crossed, but also appearing as crossed arrows or a red 'X', would probably be worn by other troops as a field sign, and appeared on most of the flags. On the latter, the other universal emblem was a stylised flint-and-steel, usually emitting sparks.

The Duke evidently also wished to standardise flags; the companies of men-at-arms had cornets of the type shown; each company ensign had its own saint and colour, and the squadron cornets followed the same pattern, but with one gold 'C' for the first squadron, two for the second, and so on. Unit numbers also appear on some flags.

A favoured symbol was St George and the dragon; shown on a guard cornet, it also appeared early in the reign on Charles' chief standard, which was then white, and also carried the cross of Burgundy, plus flames etc, and Charles' motto 'Je l'ay emprins' (I have undertaken it). Heraldic banners of individual vassals, or carrying the arms of Charles' territories, were also common, and examples are shown.

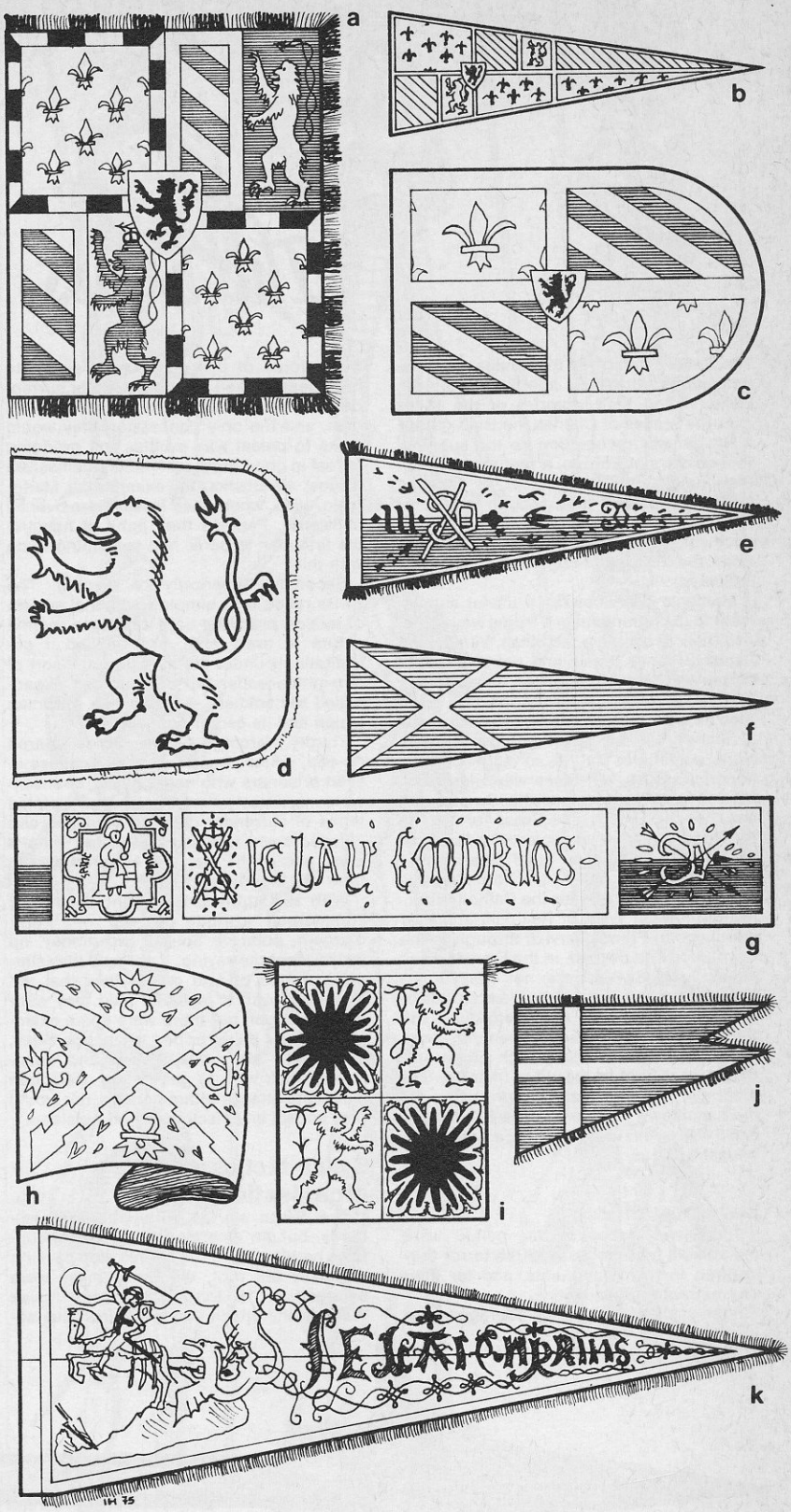


One of Charles the Bold's guns. This shows the 'Burgundian' carriage. Gun is about 75 mm calibre, overall length 360 cm, overall width 158 cm, wheel diameter 112 cm. Far wheel omitted for clarity.

Burgundian horse armour (Bard) of the 16th Century (Tower of London).



Burgundian flags. **a** *Chief banner. Top left and bottom right, New Burgundy — blue, gold fleurs de lys, red and white border. Top right, Old Burgundy — blue and gold stripes with red border; Brabant — gold lion with red tongue and claws, on black, Bottom left, Old Burgundy as above; Limburg — red lion, gold claws and crown, on white. Centre shield, Duchy of Flanders — black lion with red tongue and claws, on gold. Fringe probably blue and white.* **b** *Cornet or pennon with arms of Burgundy.* **c** *Another version. Border and cross probably red.* **d** *Flanders lion. Gold, with red claws and tongue. Flag dun-brown, fringe red, blue, yellow and green. Possibly a Flemish pikeman's flag(?).* **e** *Pennon in blue and white, all flames and devices, including company number III, are gold.* **f** *Possibly a lance pennon. Red with white cross.* **g** *A cornet with the image of Saint Jude, motto 'Je Lay Emprins' and crossed staves and arrows of Burgundy, entwined with flint-and-steel symbol. This basic pattern seems to have been used by the companies of Gendarmes d'Ordonnance, but with different colour and saint for each company. Here St Jude wears red, holds a white prayer in his right hand, and sits on a brown chair, all on a white base bordered red. His name is in black. The ground of the next part is white, all markings in red. Both ends of the flag are red over blue, the device on the right gold, as is the border of the flag.* **h** *Probably an infantry flag. Captured at Grandson. Red, with white cross. Flames, flint-and-steels probably gold.* **i** *Banner of Jacques de Luxembourg (83 cm by 100.8 cm). Note odd angle of flag relative to staff. Lion red, crown etc gold, on white. 16-pointed star silver on red. There would have been a number of nobles' flags like this one.* **j** *A flag of Savoy troops in Charles the Bold's army. Red with white cross. Fringe green except at ends of cross, where it is red.* **k** *Burgundian banner of St George, probably a Guard standard. Top half of flag is white, bottom blue. St George has black armour, natural face, white surcoat with red cross and gold centre, a gold helm wrapped with a red and white 'turban', gold cloak and sword. Horse is white with red harness and gold trim. Ground on which horse stands, dragon and inscription ('Je Lai Emprins'), and flag edge all gold.*



Left d *Man-at-arms in sallet and carrying the concave shield with notch for lance still sometimes borne at this time, according to contemporary illustrations. He wears a surcoat with the cross of Burgundy. His horse has regulation frontal armour.* **e** *A mounted trumpeter in armour but with hat and tabard-type garment.* **f** *Man-at-arms wearing armet with visor and blue and white plumes. His horse has plate armour under the cloth bard, but has no head or neck armour except a small round plate on the forehead. Colours of bard unknown. Pennon (which is genuine, but does not necessarily go with this bard) is blue over red with crosses in reversed colours. Red cloth cross on breastplate.*

6

The Swiss

The Swiss established their military reputation, along with their liberty, in the 15th Century, and their victories of the 1470s over the armies of Charles the Bold gained them general recognition as the supreme foot-soldiers of Europe, a reputation which they held until their defeat at Bicocca (1522). Even after that, though a little of their 'edge' had gone, they remained very good soldiers, as their selection by both the Pope and the King of France as bodyguards indicated.

Mercenary service was a useful supplement to the mountaineer's frugal way of life, and their hirers included Milan, Venice, the Papacy, France, Spain and even Henry VIII of England. In 1516, however, they signed a 'Perpetual Peace' with France and from then on were found more or less exclusively in French service; small groups of Swiss were sometimes found in 16th Century Imperial armies, but these were deserters, who showed few of the normal Swiss qualities. For the French, the Swiss formed, as Sir Roger Williams observed, the 'Body of All Battles', being their chief pike infantry through the first half of the 16th Century, playing the same role for the Catholics during the French Wars of Religion, and they continued in French service through to the Revolution and beyond. In the French army, indeed, the Swiss were not really mercenaries but rather the subsidised troops of a friendly power, and even before this the Swiss, unlike the Landsknechts, were patriotic, would not fight each other, and would go at once to the aid of their Confederation if required (very disconcerting for their employer — like Francis I, who lost 6,000 Swiss this way, four days before the critical battle of Pavia).

Swiss qualities

The Swiss troops of this period were remarkable both because of the terror they inspired in their opponents, and for their own extraordinary qualities.

First of these was sheer courage — *no* Swiss force of this period *ever* seems to have been broken or to have run or surrendered; several literally fought to the last man, and the only concession they would make to defeat was a bitter and grudging retreat in good order, defending themselves against all attacks (for example, at Marignano, 1515, where their losses were over 50 per cent!). Perhaps their habit of hanging the first man to panic had something to do with this!

Secondly, superiority of training. The Swiss relied on a simple traditional system of tactics, practised until it became second nature to every man, and applied it unhesitatingly under the direction of a sort of committee-leadership of dour and experienced old soldiers — rather like a Roman legion and its centurions.

Thirdly, ferocity — the Swiss spared no-one, refused quarter to their enemies — even prisoners who could afford a ransom were mercilessly slaughtered; they violated terms of surrender given to garrisons and pillaged towns that had capitulated — not a small part of the fear they inspired sprang from this bloody reputation.

With this ruthlessness went a strongly commercial attitude to war — 'Point d'argent, point de Suisse' (No money, no Swiss) went the saying; if not paid they simply marched off, no matter how that left their employer. If regularly paid they were normally loyal, but there were some examples of their being bribed to change sides. They were also independent and headstrong, their wish to get the job over often leading to attacks without orders, nor would they accept any discipline from outsiders.

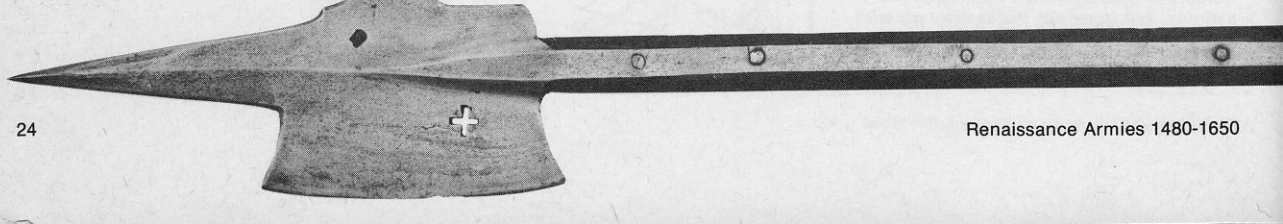
Swiss tactics and organisation

The Swiss started with eight-foot halberds, but on emerging from their mountains had to turn to the pike to stop cavalry; originally ten foot, the Swiss pikes were enlarged to 18 foot in the early Italian Wars. In the attack they were characteristically held head-high, well forward from the butt, and with the point inclined down.

Throughout our period the Swiss remained pikemen; many of them were without armour, but front rank men were usually well-protected, with open burgonet or pot-helmet, half or three-quarter armour, and often arm protection, including mail sleeves. They formed a deep pike phalanx, with the usual halberdiers guarding the colours and being used if the advance was halted. There were at least ten per cent of men with crossbows, or, from the 1490s on, with arquebusses, and these formed skirmishing screens in front or on the flanks of the pikes. When fighting on their own the Swiss used a larger proportion of other types of troops — at Morat in 1476 they had two cavalry to every five firearms, five pikes and five halberds; while when fighting the French in the early 16th Century they had 25 per cent arquebusiers and a few cavalry, half of them mounted arquebusiers, and a small number (four to eight) of cannon.

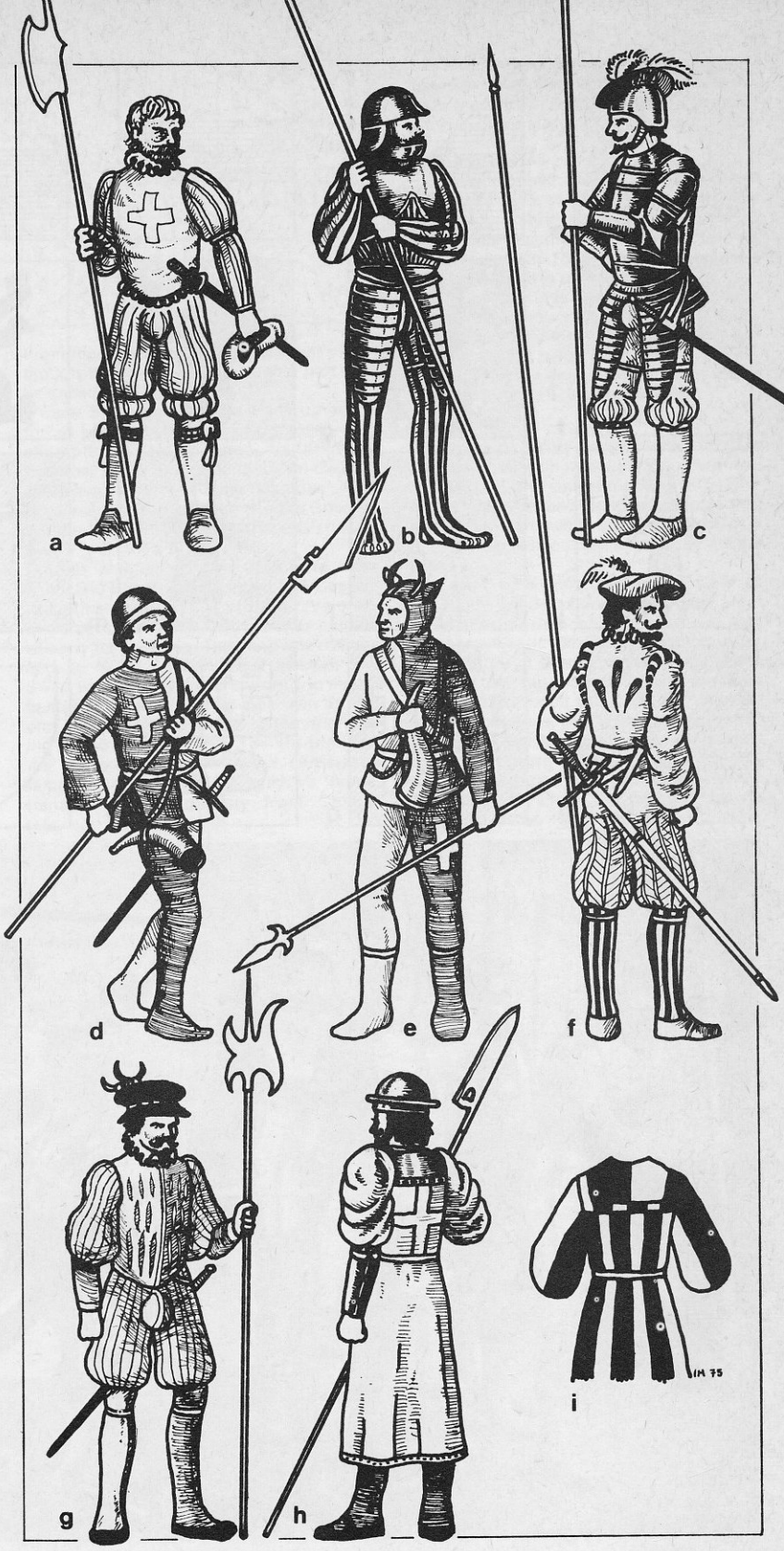
The pikes were normally formed into three very large columns (though at Bicocca there were only two) which could be of equal strength (at Bicocca 4,000 each) or widely different, according to circumstances. At Novara, 1513, there was a striking column of 6,000 and two small diversionary ones of 1,000 and 2,000 respectively.

Against infantry the Swiss nearly always took the offensive; their training gave them tremendous speed — they reckoned to charge artillery *between* the discharges and they liked to achieve surprise where possible, while the sight of that forest of spearpoints coming down at a rush was often enough for the enemy. The columns went forward in echelon, one (not always the right) in advance, the others further back to guard its flanks and act as reserve. Leadership was professional rather than inspired, and the Swiss did not entirely adapt to the growing power of firearms and field defences; a bloody lesson from the French cannon at Marignano was followed by disaster in the sunken road at Bicocca, 1522.

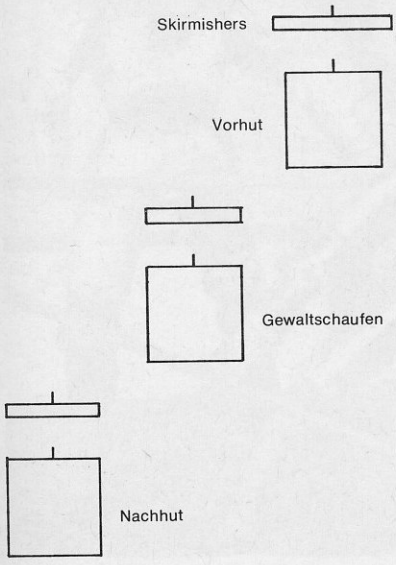


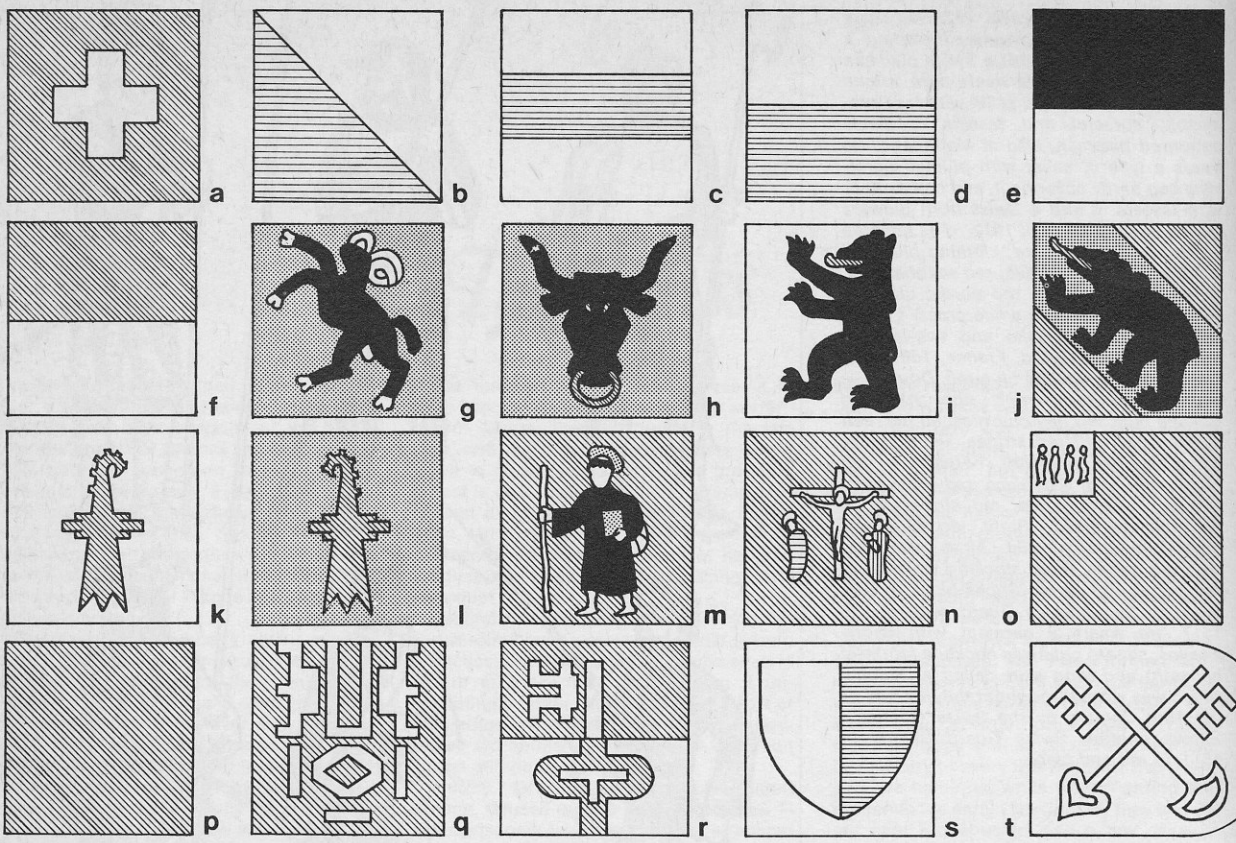
An actual Swiss halberd of the late 15th or early 16th Century showing characteristic shape (Tower of London).

a *Swiss halberdier at Pavia, 1525. He wears a Lansknecht-type costume, including a short 'katzbalger' sword.* **b** *Swiss pikeman at Marignano, 1515. He wears tight striped hose like earlier Swiss, sallet with face protection, corselet and tassets.* **c** *Swiss armoured pikeman, also at Marignano. He wears a type of sallet with plumed beret-style cap partly covering it, and half-armour with tassets.* **d** *and* **e** *Swiss horn blowers from a battle picture of 1512. 'd' is Lucerne — horn white, red cord; clothing blue and white with white crosses; red scabbard. 'e' is Uri — horn white, red cords; clothing yellow and black with white cross.* **f** *Swiss soldier 1572 with pike and two-handed sword.* **g** *Swiss Guard, France, 1581. Cap black, pompoms white-blue-red. Doublet — white strip down front; right half red slashed blue, left half blue slashed red. Left sleeve blue with red stripes. Right sleeve white-blue-red, repeated. Forearm — left blue, right red. Codpiece red-white-blue. Left leg — front blue, red stripes, back probably reversed. Right leg blue-red-blue-white-blue-red-blue. Left stocking blue with red garter. Right stocking white, with red garter and stripe. Shoes black.* **h** *Sergeant of Papal Swiss Guard, with glaive, 1517. He wears a garment with baggy sleeves, square cut-away neckline (corselet beneath) and long skirt called a 'Sajone' which was worn throughout the first half of the 16th Century by the Swiss Guards.* **i** *Shows another Swiss Guard Sajone of 1511, in red and black.*



Usual Swiss pattern of attack — three large pike columns in echelon.

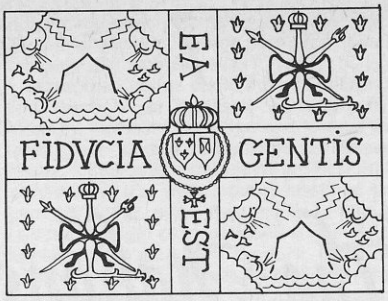



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Right *Cent-Suisse standard, early 17th C. Blue with white cross. All detail gold except black writing, grey sea, natural faces. Central shields are blue (left) and red (right), while large crown has blue backing. Ribbon in bottom left and top right is red. (NB 'Est' is speculative.)*

Swiss 16th Century flags. **a** *Confederation flag, red and white, already in use in the 15th and 16th Centuries.* **b** *Zurich — blue and white.* **c** *Zug — blue and white.* **d** *Lucerne — blue and white.* **e** *Fribourg — black and white.* **f** *Unterwalden, Solothurn — red and white.* **g** *Schaffhausen — yellow with black ram.* **h** *Uri — yellow with black bull, red ring and eyes.* **i** *Appenzell — white with black bear, red tongue.* **j** *Berne — bear black on yellow, tongue and corners red.* **k** *Basle — white with red crozier.* **l** *Basle, as seen at Marignano — yellow with red crozier.* **m** *Glarus — red with monk in black habit, white face, hands and feet, brown stick, yellow bible and halo.* **n** *Schwyz — red with left-hand figure blue, right-hand green, white faces, gold halos.* **o** *Schwyz — red with gold canton.* **p** *Schwyz — plain red. In later times carried small white cross, but not in this period.* **q** *Geneva — red and white.* **r** *Geneva — red and white.* **s** *Unknown, but also used at Marignano. Styles and details of all these Swiss flags seem to have varied a great deal. They are sometimes shown as 't' with a shield imposed on the flag.* **t** *Papal flag used by Swiss at Marignano.*

Bottom left *A group of Swiss soldiers in equipment and fighting positions* (Swiss National Museum, Zurich).



From then on the Swiss took a lower place, though they were still a valuable part of a balanced force.

Each Swiss column was made up of the forces sent by a number of Cantons — for example at Marignano: *Nachhut* — Lucerne, Basle and Schaffhausen; *Gewaltschaufen* — The 'Forest Cantons', Uri, Unterwalden, Schwyz, Zug and the Grisons; *Vorhut* — Zurich, Appenstell and Glarus, St Gall.

Swiss companies appear to have been about 200 strong, commanded by a Captain (Hauptmann) and standard-bearer (Venner). Every contingent of 200 or over was entitled to carry its own flag. They had few officers and no NCOs; officers were elected. The Swiss were among the first troops to march in step to music, and had their own drums, etc; in battle they charged to the 'frightening sound' of their horns. The 'Uri Bull' and the 'Unterwalden Cow' were particularly famous, being probably auroch's horns, handed down reputedly from Charlemagne's day.

In French service, regimental organisation later developed, and by 1600 the Swiss units were of ten or 12 companies, each of 200 pikes, 30 muskets, and 30 arquebusses.

Bodyguards

The Pope raised a Swiss Guard of 150 in 1506, and it was maintained thereafter except for a short time after the Sack of Rome, later reaching 600 strong. Costume is illustrated; in 1548 they changed to a Landsknecht style of dress.

The French Kings also had Swiss Guards in the 16th Century. Under Henry IV there was a Guard Regiment of 500 and the 'Cent Suisses' — 100 halberdiers. One of the latter, from 1581, is illustrated, together with a 17th Century Cent Suisse standard.

Dress

Pictures of Swiss troops of the late 15th Century usually show sallet or pot-helmets, half armour, and simple clothing with tight-fitting hose — often striped or particoloured — and tunic; the white cross was worn as a field sign — sometimes, apparently on the leg.

In their wars with Charles the Bold of Burgundy the Swiss are said to have originated the Lansknecht style of dress with its characteristic slashed decoration; after their victory at Grandson (1476) the Swiss patched their ragged clothing with captured silks, and the result was copied by the German mercenaries, who after all were modelled on the Swiss in most other respects. It certainly appears that a style of dress very similar to that of the Lansknechts, if a fraction more restrained, was characteristic of the Swiss in the 16th Century.

7

The Italians

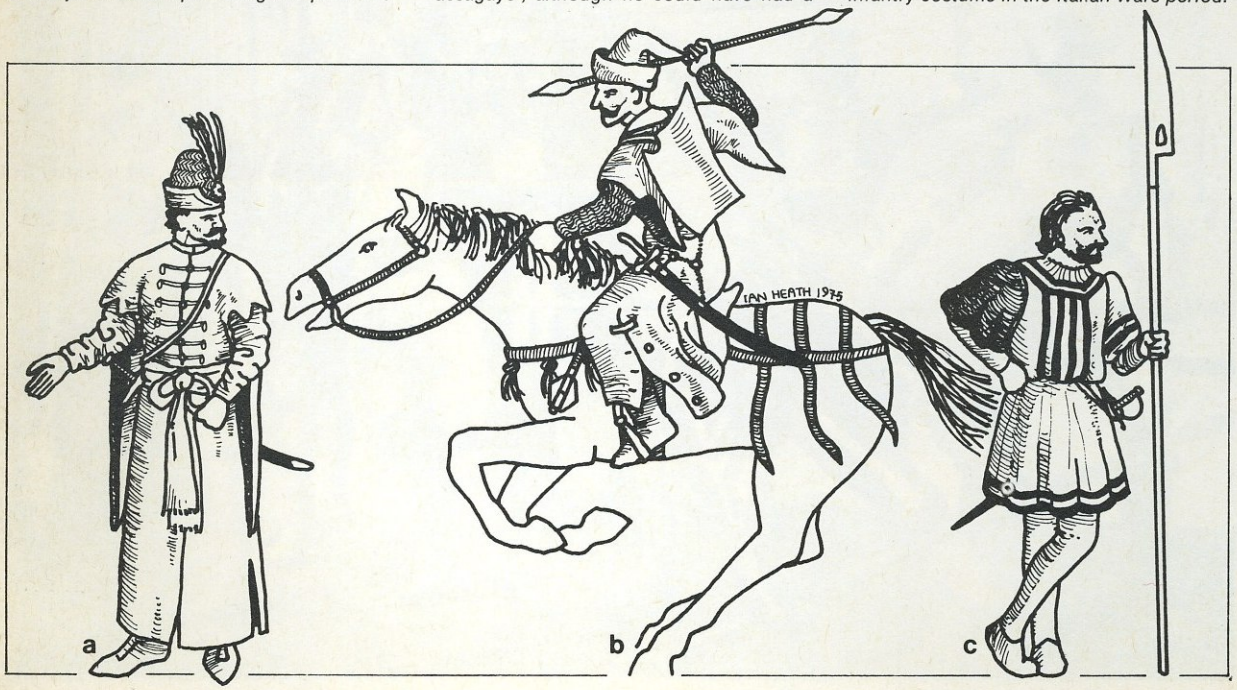
The incessant warfare of the 15th Century Italian city-states has, ever since Machiavelli, been characterised as a kind of mock-warfare, conducted by professional mercenary contractors or 'condottieri', whose interest was only in minimising losses of expensive troops and spinning out profitable conflicts, by reducing war to a sort of bloodless chess of manoeuvre and counter-manoeuvre; a humane proceeding which for some reason always arouses a positively moral indignation in the critic. The Italians, by relying on the mercenaries, had lost their ancient military virtues; the mercenaries failed to stand the shock of 'real' war imported into Italy by the French in 1494, and the peninsula became a helpless battlefield, fought over for half a century and finally subjugated by foreigners. This did happen, and there is probably some truth in the reasons cited for it — even opposing Machiavelli's claim that at Molinella, 1427, a general action lasted half a day with no casualties, the later historian Ammirato could only claim that 20,000 men in gallant battle had produced a death-roll of perhaps 300 . . .

None the less, more recent writers (notably Michael Mallet in *Mercenaries and their Masters)* have gone some way to modify this picture, particularly in showing that the Italian states were not as totally dependent on the Condottieri as has been supposed, and that they did not entirely abandon citizen-soldiers, nor neglect infantry. Nor were the Condottieri quite such disinterested professionals as they might appear, since they were often bound, by land grants and so forth, to the permanent service of a particular state.

Their bands *were* largely of cavalry, and their prime soldier was the relatively invulnerable man-at-arms or gendarme. Italian gendarmes were well-armoured and equipped, with lances longer but perhaps more fragile than those of the French, an axe being the favourite secondary weapon. They were well-mounted too, the Italians having pioneered the scientific breeding of war-horses, and man for man were to prove a match for the French, though much less effective when in formed bodies. As in other armies, they were counted in 'lances', including the man-at-arms, a 'sergeant' or more lightly equipped cavalryman, and a page. In the later 15th Century there could be as many as four, or in Papal service five, men in a lance, but it is likely that there would still only be two combatants.

A Condottiere's company would be

a *Mid-16th Century Stradiot. Note hanging sleeves and ruffed-up undersleeves. Hat is of a 'beehive' type, of fur or rawhide, which seems to have been common in the Balkans. In this case it has a turned-up brim and a jewelled clasp holding the plume.* **b** *An early 16th Century Stradiot wearing a mail shirt, largely covered by a robe with skirt split and the sides, and hanging sleeves. He carries a Turkish-type shield on his back, and carries a sabre, mace and 'assagaye', although he could have had a light lance instead.* **c** *German of the Pope's Guard (Clement VII, 1530). This figure, together with the Swiss figures wearing Sajones shown in the previous chapter, probably give a good indication of Italian infantry costume in the Italian Wars period.*



divided into several 50 or 100 lance squadrons, the largest being his own 'casa' or household, which included trumpeters and attendants as well as the best gendarmes, and perhaps young noblemen from the city he served. In battle, however, smaller squadrons of about 25 lances were employed; the condottiere would commit only one or two to battle at a time, replacing them with others as they became tired. In the late 15th Century, eight or ten of these small squadrons could be brigaded together as a 'Colonello'.

There were also cavalry directly maintained by the cities; these could include some kind of bodyguard force like the 2,000 strong 'Famiglia' of Milan, but the greater part would be directly-hired 'Lanze Spezzate' (broken lances). By the 1480s, two-thirds of the cavalry of Milan were of these types rather than condottieri-controlled.

Apart from lighter cavalry included in the gendarme 'lances', separate bodies of light horse began to appear during the 15th Century. These were initially mounted crossbowmen, but before 1500 Camillo Vitelli had begun to employ mounted arquebusiers. By the 1480s the Venetians had introduced 'Stradiots', of whom they had six squadrons. These were irregular Balkan cavalry, originally survivors of Scanderbeg's struggle with the Turks in Albania, but later recruited from Greeks and Croats as well. They dressed in Turkish style and rode Turkish horses, but instead of turbans wore caps or helmets; for protection they at first had mail and Turkish style shields, later relying on helmet and breastplate. Their most characteristic weapon was a short throwing and thrusting spear with points at both ends called an 'assagaye' (assegai), and they also favoured mace and curved sword; some had crossbows or light lances. Though renowned for ferocity, they were undisciplined and tended to disappear in the direction of the enemy camp or baggage train early in any action, though they were useful for raids and ambuscades.

Condottieri bands could include infantry, and much larger numbers were directly hired by the cities. In Milan and Venice at least, these were supplemented by citizen militia, officered and trained by professional 'constables'. Nor were infantry confined to garrison duties, since they made up about half the strength of most Italian states' field armies in the late 15th Century. Most of these infantry were missile men, armed with early handguns or later with arquebusses, or with crossbows — in 1482 the Milanese had 1,250 handgunners, 352 arquebusiers and 233 crossbowmen. They were organised in small companies of around 50, which did not mass together in battle but operated in skirmishing fashion, making maximum use of natural cover. Perhaps surprisingly, many wore helmets and corselets.

The arrival of the Swiss in 1494 indicated the possibilities of massed shock infantry; the condottiere Vitellozzo Vitelli was the first to train Italian pikemen using Swiss tactics, and there were attempts to do the same in the early 16th Century. Venice, firstly, had armies particularly strong in infantry, and at Agnadello, 1509, where they had over 20,000 infantry to only 2,000 gendarmes and 3,000 Italian light horse and stradiots, they employed several thousand Romagnol mercenaries with the pike, dressed in red slashed with white, to support their militia who were probably mainly arquebusiers.

Secondly, Florence attempted to turn to a revived citizen militia for defence (an experiment which much affected Machiavelli's views). In 1506 they had 10,000 infantry, trained by professional officers, and composed of 70 per cent pikemen, ten per cent arquebusiers and 20 per cent halberdiers, crossbowmen and sword and buckler men.

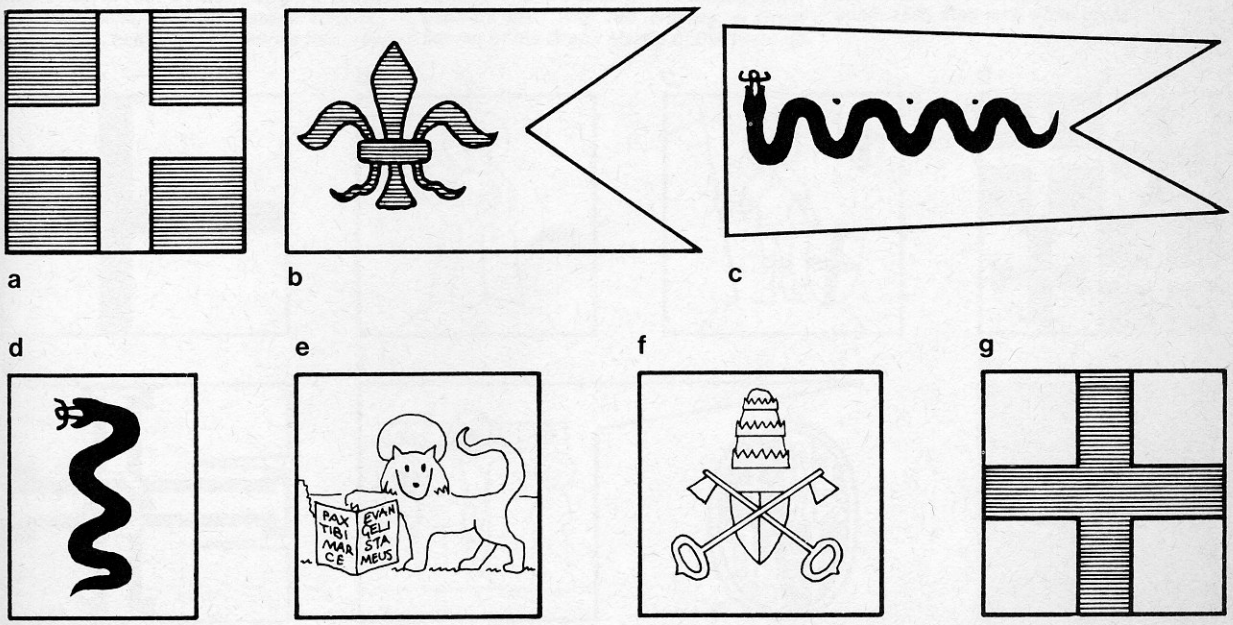


Italian 16th Century burgonet (Tower of London).

'Barbutes' — helmets of semi-classical pattern popular with 15th and early 16th Century Italian cavalry and infantry. They were particularly characteristic of the Venetian army.



Italian flags. **a** *Verona — red with white cross.* **b** *Florentine flag — white with red lily: the city badge.* **c** *and* **d** *Used at times by Milan. Both show the Visconti family badge of a green serpent swallowing a man. Flags white.* **e** *Venetian flag. Blue sea and sky, green grass, gold lion of St Mark and halo. Book white. The Venetians also used white and other coloured flags with the gold lion.* **f** *Papal flag, about 1548. White (or red) with triple crown in gold, crossed keys of St Peter in gold and silver.* **g** *The city badge of Milan — white with red cross.*



(They later planned to raise 500 light cavalry, ten per cent lancers, the rest crossbowmen.) In their final bid for independence (1528-30) the Florentines tried to get as many arquebusiers as possible, and of 3,000 City infantry raised, 1,700 were arquebusiers, 300 halberdiers, and 1,000 pikemen; only 60 had the new muskets. The 10,000 country militia may have been differently armed.

The ill success of such ventures (the Venetian pikes were slaughtered at Agnadello and the Florentines failed) may have discouraged the further development of Italian pike infantry. The Italian states' troops were usually fighting as part of alliances (such as the Holy League against France) where Lansknechts or other foreigners could provide the solid infantry base, or else Italian soldiers were being hired for other people's armies — invariably being called on for their national specialities of skirmishing with arquebus or musket on foot, or mounted with crossbow or arquebus (though Italian men-at-arms were also used).

The most famous of these mercenaries, and indeed one of the élite forces of the later Italian wars, was the 'Bande Nere' (Black Band) of Giovanni de Medici. Typically, this consisted of about 300 mounted and 3,000 foot arquebusiers (some of the latter may have been provided with poor mounts to turn them into an early species of dragoon or mounted infantryman). Few if any had pikes. (The name is often said to have been derived from black mourning bands or sashes worn by these mercenaries after the death of Pope Leo X, but this sounds a little like a rationalisation for a name which was very widely used of mercenary groups at this time.)

The only independent Italian army to survive into the 1530s was that of Venice, though in the 1550s Emmanuel Philibert of Savoy raised a well-organised force of infantry, about 1/3 pikemen and 2/3 arquebusiers, in 'centuries', 400 man companies, and six company 'Colonellas'. The great majority of Italian troops later in our period would, however, be serving, often with distinction, in other armies, especially those of Spain and the Empire.

Carroccios

An interesting feature of the medieval armies of the Italian states, which survived through the 15th Century, the Carroccio was a very large flat wagon, brilliantly painted, draped in scarlet, and bearing an altar and a mast (which could have a cross-spar like that of a ship) from which hung the civic banners and other decorations. Drawn on the battlefield by a team of white oxen, the Carroccio would have a picked guard for its defence, and acted as centre, rallying-point, and mobile headquarters for the giving of trumpet signals and the like.

Artillery

Most of the Italian cities used guns, but this was certainly an area in which they suddenly found themselves outdated in 1494. The guns were heavy, still used only stone shot and, being drawn by oxen, seldom reached the battlefield in time. Even when they did, they were fit only for a single ineffective volley before combat was joined.

8

The Military Orders

A characteristically Medieval institution, these orders of soldier-monks none the less survived, in several cases, into the 16th Century as active military forces, and indeed, in the early part of our period, provided some of the very few troops who could be called regular.

One survival was the Order of the Teutonic Knights who, at the beginning of the period, were still highly influential in North-East Germany and more or less governed their own lands in the Baltic areas of Latvia, Livonia and Estonia.

In the area of Prussia the order seems to have broken up in 1525, when the Grand Master Albrecht von Hohenzollern turned Lutheran, but further east the Order survived until 1562, when its defeated remnants were disbanded after the Russian invasion of Livonia.

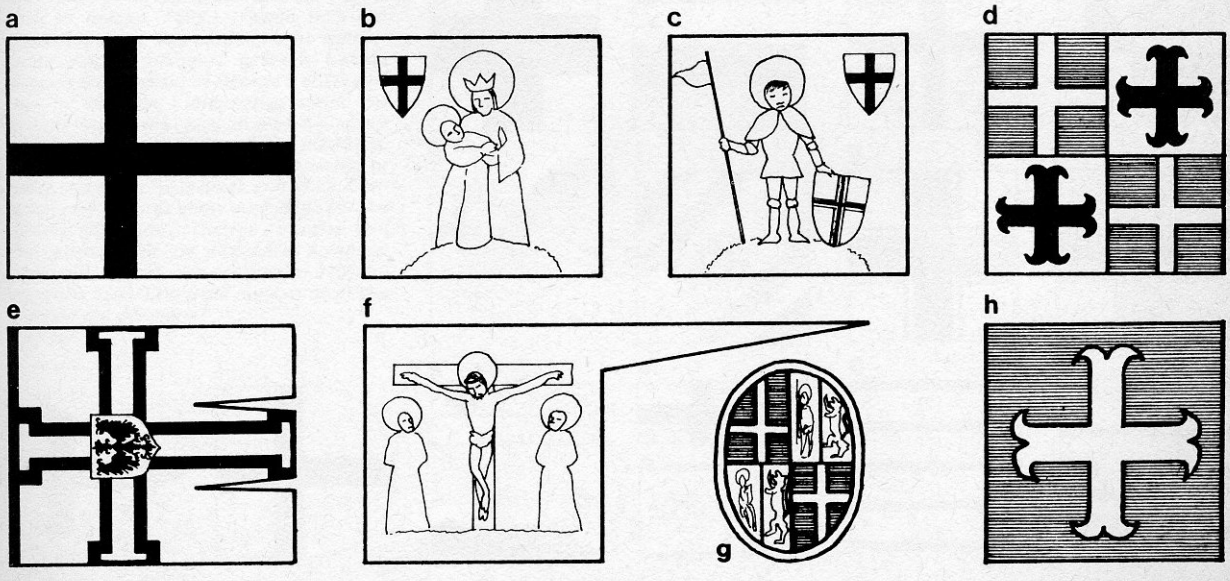
Nor were these 'Medieval storm-troopers' a negligible military force over these years. Under the Grand Master Walter von Plettenberg, one of the greatest leaders of their order, they took a very active and successful part in the war of 1499-1503, in which the Grand Duke of Muscovy, supported by the Khan of the Crim Tartars, fought the Grand Duke of Lithuania, the Tartar Khan of the Volga, and the Order. In this war, the knights' strength lay in a skilful combination of heavy cavalry charges interspersed with artillery fire; with such tactics Plettenberg won, for instance, the battle of the Seritsa River, where an Order army of 8,000 foot and 4,000 horse defeated 40,000 Muscovites. An earlier Order army has less infantry but may give an idea of the more detailed composition of their forces: 1,000 heavy cavalry (full armour) and 600 light cavalry plus 1,300 infantry militia and 400 infantry mercenaries.

The brethren themselves were a relatively small proportion of the forces of the Order — in general they seem to have acted as officers and NCOs over forces of mercenaries and levies, though they probably formed a higher percentage of the heavy cavalry. All professed brethren had to wear a beard, and were also distinguished by a black-enamelled silver 'ritterkreuz' hanging round their necks (rather like the iron crosses of a much later generation of German officers), and bore a black cross edged in silver on their tunics.

Other men serving under the Order may have worn its surcoat, which was white with a narrow black cross. Leaders, including the Grand Master, would be distinguished by more elaborate equipment — at Tannenberg, 1410, the Grand Master wore gilt armour and a white cloak. Trumpets and drums were used and the usual battle-cry or field-word was 'Gott Mit Uns'.

The final war of the Order was against the Russian invasion of Livonia (1557-62). By this time they could only raise 2,000 cavalry plus some infantry. The latter were armed with arquebusses and pikes, and may have

a *Lesser banner of the Grand Master of the Teutonic Order, captured at Tannenburg. Black cross, white ground.* **b** *and* **c** *Two sides of the Great banner of the Livonian Master, early 15th Century. Virgin's robes blue and white, face etc natural colours, grass green, halo gold. St Maurice has grey armour, gold elbow and knee plates, with white halo, robe, shield and flag. Background (both sides) white.* **d** *Late 15th Century Knights of St John flag. Top left and bottom right red with white crosses, other quarters gold with red crosses.* **e** *Great banner of the Grand Master of the Teutonic Order. White with gold cross and shield, black borders and double-headed eagle.* **f** *Late 15th Century Knights of St John flag.* **g** *Shield of the Grand Master of the Knights of St John, 1564.* **h** *Flag of the Knights of St John, 1535. Red with white cross.*



been Lansknechts, though as early as 1454 the Order had been replacing its crossbow-equipped infantry with handgunners.

One of the standards carried in this war was that of the Lithuanian Master of the Order, which showed the Virgin Mary in glory; standards captured by the Poles from the Order at Tannenberg are illustrated, and similar ones were probably also carried in the 16th Century.

Apart from the Order of San Diego, which played a part in the Spanish wars with the Moors in the late 15th Century, the other Military Order still active in our period was that of the Hospitallers (Knights of St John), and their military career in fact continued right through to the end of the 18th Century, though by then they were in sad decline.

The Hospitallers were still primarily concerned with the war against Islam, and much of their fighting was at sea, where their small but powerful galley fleet was the scourge of the Moslems in the Mediterranean. However, they also did a great deal of land fighting, and were found, *inter alia,* assisting Charles V's Imperial forces at Tunis (1535), defending Venetian Candia (Crete) against the Turks (1648-68), helping in the Venetian conquest of the Morea (Greece, 1687) and even helping the Emperor to recapture Belgrade from the Turks (1688). However, the high point of their military achievements came in the 16th Century, with the two epic sieges of Rhodes in 1522 and of Malta in 1564.

As the Emperor remarked, 'Nothing in the world was ever so well lost as Rhodes', and though the knights' very gallant defence was overcome, they marched out with the honours of war, and were given Malta as a new base, by Charles V. There, in an even more epic siege, conducted by Suleiman the Magnificent with 6,000 Janissaries and some 23,000 other Turkish troops, plus the corsair Torghut, 'Sword of Islam', with another 1,500 men under his own flag (red and white with a blue crescent), the knights finally beat off the Turks and, as it turned out, permanently halted Turkish maritime expansion in the Mediterranean.

As with the Teutonic Knights, the armies of the Knights of St John had a relatively small proportion of actual members of the Order, acting as officers, NCOs and spearhead troops. They wore a scarlet 'supravest' — a tabard type garment — over their armour in battle, marked with a square-ended white cross. Such was its reputation that on one occasion in the 16th Century a Turkish attack was defeated by the simple expedient of dressing up all available civilians in it — the sight of what appeared to be an unexpected reinforcement of knights proving too much for the enemy. The ordinary soldiers appear to have worn just the white cross as a field sign on back and breast.

At Rhodes, the garrison consisted of 500 brethren, 1,000 men-at-arms, 800 Cretan mercenaries and some thousands of local militia (the Cretans had retained their ancient reputation as mercenary archers, but their weapon was now the crossbow; they were under Venetian rule and were usually to be found in Venetian armies — indeed the Venetians had forbidden them to take service with the knights). In addition to heavy guns, the defenders had some light sakers and falcons on wheeled carriages, which could be moved up to cover breaches.

At Malta in 1564, the garrison comprised 541 brethren and servants at arms (later rising to 700); 3,000 Maltese militia (later rising to 5 or 6,000); 1,200 Spanish and Italian mercenaries; and about 1,500 others, including Greek residents, galley slaves used for labour, etc.

The mercenaries were pikemen and arquebusiers, normally equipped for the period, with morions or burgonets, and corselets and tassets for the pikemen. The militia had only helmets and leather jerkins, and were probably mainly armed with firearms. They demonstrated a staunchness and loyalty similar to that for which their island was later awarded the George Cross.

The knights may in some cases have worn full armour, but as they were fighting on foot would be more likely to wear half-armour or brigantine. They carried various officer-type weapons, useful in siege warfare, such as halberds, half-pikes, two-handed swords and so on, and to judge by near-contemporary prints many of them bore oval bucklers, red with the white cross. The Grand Master, Jean la Vallete, betrayed his 70 years in his white beard, moustache and curly hair, but played an active role; he was armed with a two-handed sword and was distinguished by a 'supravest' of cloth-of-gold and the shield shown.

Some interesting special siege weapons were also employed by the defenders, including 'cercles' of blazing wadding which were dropped over groups of attackers, fire-grenades in earthenware pots with four spouts, each containing a fuse, and 'Trumps', a sort of short-range flame-thrower on a pole. They were very effective against the Turks, who retaliated with sticky-bombs of incendiary type, hurled by the Janissaries; the knights kept large tubs of water behind the ramparts, into which anyone hit by one could hastily jump!

9

The English — Henry VIII to Elizabeth

The service of the English army of the 16th Century was varied, if on a relatively small scale: a couple of expeditions against France, continuous trouble and two major conflicts with Scotland, lengthy wars in Ireland, aid to both sides in the Netherlands and to the Huguenots in France, plus preparations against various invasions which never came. In itself, the army is of particular interest, firstly in weaponry, with the insular retention of bill, cavalry lance, and, above all, longbow, long after their abandonment elsewhere; secondly in forced reliance on a national militia system throughout what was generally the age of the mercenary.

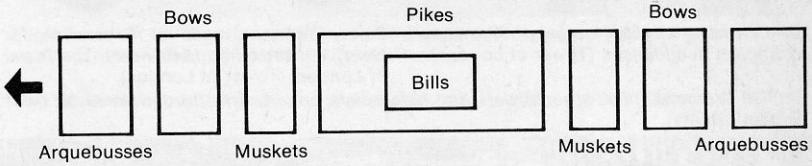
Englishmen had been compelled to keep arms according to their wealth (and in some cases their wives' wardrobes — a silk petticoat let you in for the expense of light horseman's equipment!) since the Assize of Arms of 1181, and the 16th Century effectively saw the continuance of this system, though with modifications.

All eligible were compelled to muster for inspection at varying intervals (up to twice a year in times of danger), the system being generally administered on a county basis, and run by Commissioners of Musters (replaced, from the reign of Mary, by the new Lords-Lieutenants). The Clergy, and Lords and their retainers, had similar obligations, administered separately. By the end of the century the militia, in theory at least, totalled a million men.

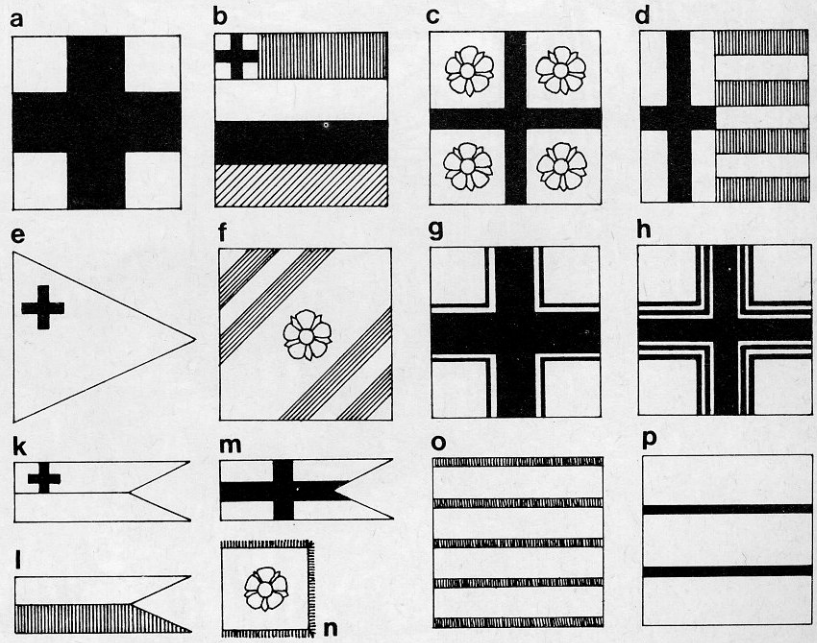
At first the troops returned home after inspection, unless an invasion threat caused them to be kept mobilised — Henry VIII kept 120,000 men on foot for a whole summer. From 1573, however, 'Trained Bands' appeared, picked men from the general muster retained for drill, costs being paid by the city or county concerned. This reform was perhaps connected with the increasing use of firearms and pikes, both requiring considerable training (the bow, of course, required even more training, but this had normally been acquired by its exponents during their own time).

For service abroad, which was on a considerable scale in the last quarter of the 16th Century, troops had, of course, to be paid, but were often raised, complete with arms and armour, from the county militia or the Trained Bands (it was commonly those whose absence would be most welcome who were sent on foreign service!)

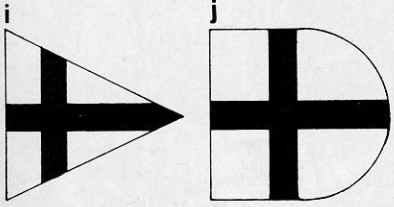
In the 17th Century the Militia system fell into decline, but by the Civil War was still the only basis for military forces in England



Marching order of an English unit according to Sir John Smith, 1595.



English flags. **a** *Plain white infantry flag with red St George's cross. Over six feet square.* **b** *Infantry flag carried in Ireland in 1590s. St George's cross red and white, other colours unknown.* **c** *Infantry standard carried by Leicester's troops in the Netherlands, 1586.* **d** *St George's cross combined with Tudor white and green.* **e** *Infantry standard in Ireland, 1593 — white with red cross.* **f** *Another flag carried in the Netherlands, colours unknown.* **g, h** *and* **i** *Three variants on the plain St George's cross carried by infantry.* **j** *Alternative shape for infantry standards.* **k, l, m** *and* **n** *Cavalry guidons.* **o** *and* **p** *Infantry flags of the 1580s. 'o' could be blue and white, red and white or black and white. 'p' is black and white. Contemporary pictures show such flags carried by units alongside St George's crosses, as if the latter might be Colonel's company (regimental) standards, 'o' and 'p' ordinary company flags. Could the number of stripes indicate the company?*



— hence the efforts of both sides to gain control of it, and the important role played in the war by the Trained Bands of London.

Infantry weapons and organisation

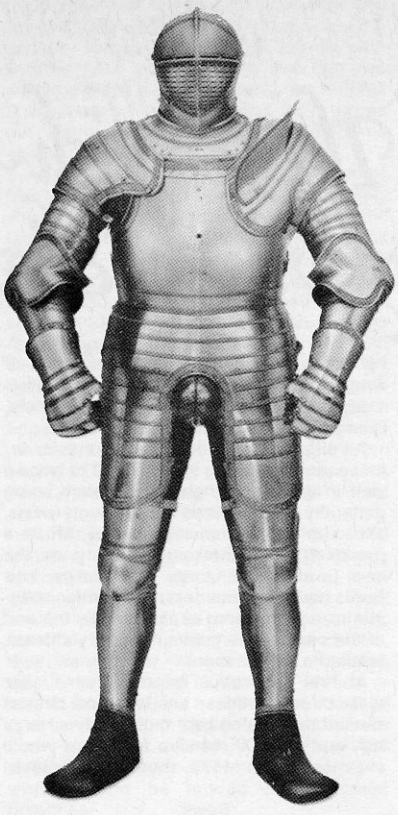
In the early 16th Century, nearly all were the traditional billmen and longbowmen, both usually equipped with a jack (a waist or knee length coat 'quilted and covered with leather, fustian or canvas, over thicke plates of iron that are sowed in the same'), and with a simple rounded helmet of 'skull' or sallet type. Even by the 1550s this was still largely true, corselets and morions being rare, and multi-layered canvas jackets or even mail shirts being still favoured.

Henry VIII, the only military-minded English monarch of the period, began reform. As well as instituting home production of artillery and armour, he imported weapons in quantity (many are still at the Tower) and encouraged the adoption of artillery, the pike, and hand firearms. However, among 28,000 English foot taken to France in 1544, there were less than 2,000 arquebusiers, and billmen outnumbered pikemen three or four to one. Henry had to hire Spanish and Italian arquebusiers, and German pikemen.

The older weapons *were* gradually supplanted by the new, and in 1558 English companies in Ireland had about 50 each of longbowmen and arquebusiers. A Leicestershire company of 1584 shows a later stage in the transition, having 80 pikemen and 80 men with firearms, as against 40 billmen and 40 archers. Though Sir John Smith wrote approvingly of this organisation in the 1590s, and recommended the formation illustrated, he was a longbow enthusiast, and it seems likely that the 1580s saw both the appearance of the mus-



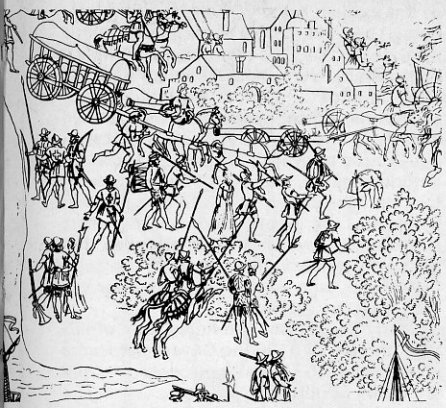
Italian armour of 1550, typical of that worn by English demi-lances (Tower of London).

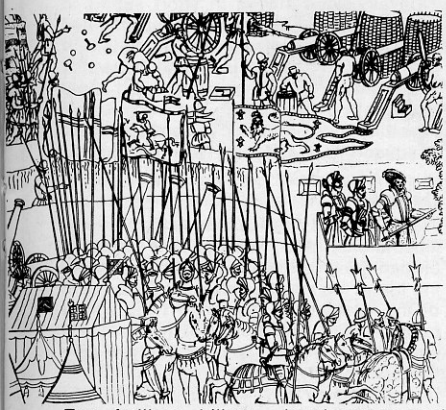


Suit of armour made at Greenwich for Henry VIII and dated 1540, now in the Tower of London. (Tower of London).

English drummer, fifer, arquebusiers and halberdiers on left, with Border Horse on right (British Library).







Top *Artillery, billmen, longbowmen and arquebusiers, with light cavalry, of Henry VIII's army* (National Army Museum).

Above *Henry VIII with his artillery and heavy cavalry* (National Army Museum).



English man-at-arms of Henry VIII's period. Possibly Henry himself, or a Gentleman Pensioner (British Museum Manuscript Department).

English demi-lances, pikemen and arquebusiers of the 1580s (British Library).



ket and the disappearance of the bow from first line English service. The London Trained Bands dropped the bow in Armada year, and in 1595 it was ruled unacceptable for Trained Bands 'shot' generally.

However, in the mid-1580s the general muster of the so-called 'maritime' counties still included 32 per cent archers, as against 40 per cent with firearms and 28 per cent 'corselets', or pikemen. Such counties as Wiltshire, Derby, Oxford and Bucks were the main suppliers of archers.

English infantry companies varied from 100 to 400 in strength, Sir Roger Williams apparently considering 150 standard in the 1590s. Some further examples are: 1558 — 150 armoured pikemen, 150 unarmoured pikemen, 100 arquebusiers; 1596 — 50 pikemen, 12 musketeers, 36 caliver men; 1599 — 30 pikemen, ten short weapons, 30 muskets, 30 calivers; 1600 — 20 pikes, ten halberds, six sword and buckler, 12 muskets with rests, 12 'bastard' (light) muskets, 40 calivers.

The word 'Regiment' was used in Henry VIII's time to describe one of the three medieval-type 'battles' into which armies were still divided (in 1544, 13,000 to 16,000 strong). Each of these would mass its pikemen and billmen together in from one to three large blocks, with 'wings' of archers and other shot operating on their flanks. 'Regiment' still had a very vague meaning in the mid-16th Century — all the troops operating in the Netherlands, 6,000 or more, forming one 'regiment' — but by the later part of Elizabeth's reign, regiments were fairly definite organisations, commanded by a colonel. They could be of ten companies, as later, but in Ireland were often of five.

Cavalry

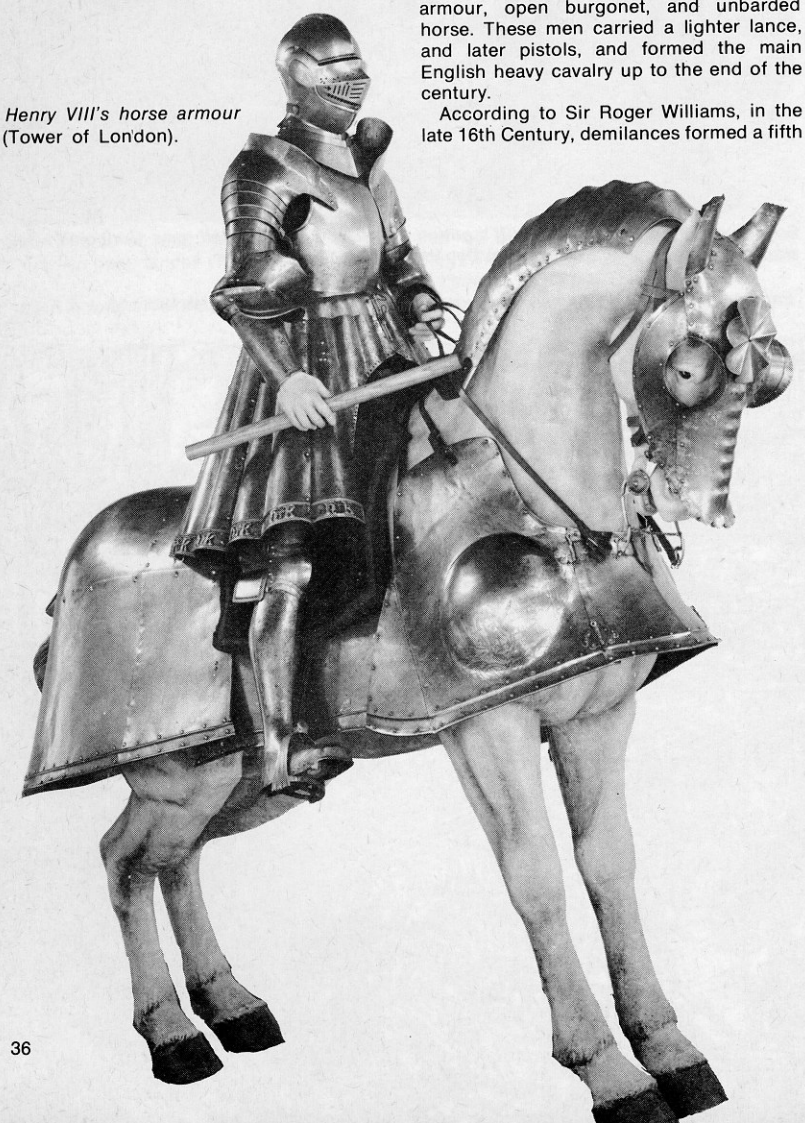
'Men-at-Arms', with heavy lance, full armour, and often barded horse, were still used in the first half of the century, but were few in number, though of high quality. In 1544, Henry VIII had 75 'Gentlemen Pensioners' or Household cavalry, and 121 Men-at-Arms. Individual noblemen would also serve in full plate. The appearance of such troops would be much the same in any army, though Englishmen might wear rounded Greenwich armour.

Much more numerous were the 'demilances', with corselet only, or three-quarter armour, open burgonet, and unbarded horse. These men carried a lighter lance, and later pistols, and formed the main English heavy cavalry up to the end of the century.

According to Sir Roger Williams, in the late 16th Century, demilances formed a fifth of the English cavalry, the rest being light horse, but the proportions in the militia were nearer 1:3. The characteristic English light cavalry were those variously referred to as 'Javelins', 'Prickers', 'Northern spears' or 'Border Horse'. They also were armed with lance and one pistol, sometimes carrying a round or oval shield as well, and wore an open helmet, mail shirt or jack (corselet for the wealthier individuals), leather breeches, and boots. Such cavalry were supplied by several English counties, but the best came from the raiders of the Scottish border, who were reputed to spear salmon from the saddle!

Nearly all English light horse were of this type, though by 1586 the Government were also trying to raise 'petronels' — unarmoured cavalry with firearms.

Cavalry were always in short supply in English armies; Henry VIII supplemented them with Burgundians, and Germans with boar spear and pistols. In Ireland in the later 16th Century, cavalry usually formed about one-eighth of an English army. In Henry's time they were organised in bands, cornets, or squadrons of 100 men, later of about 50.

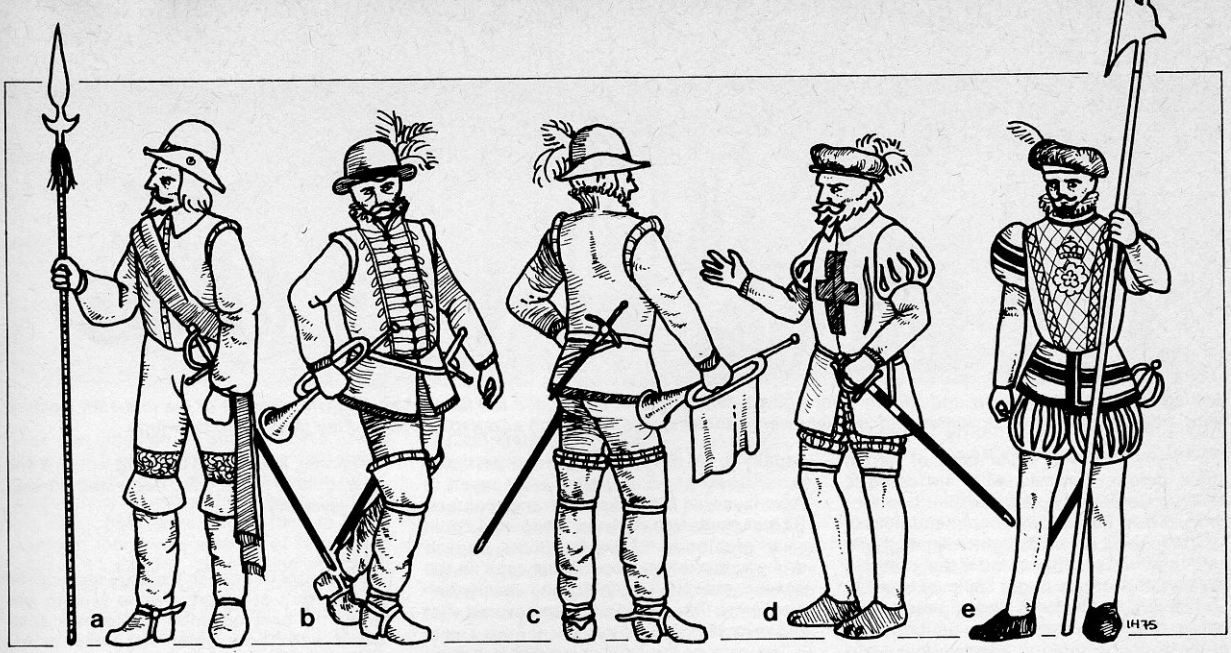


Henry VIII's horse armour (Tower of London).

Dress

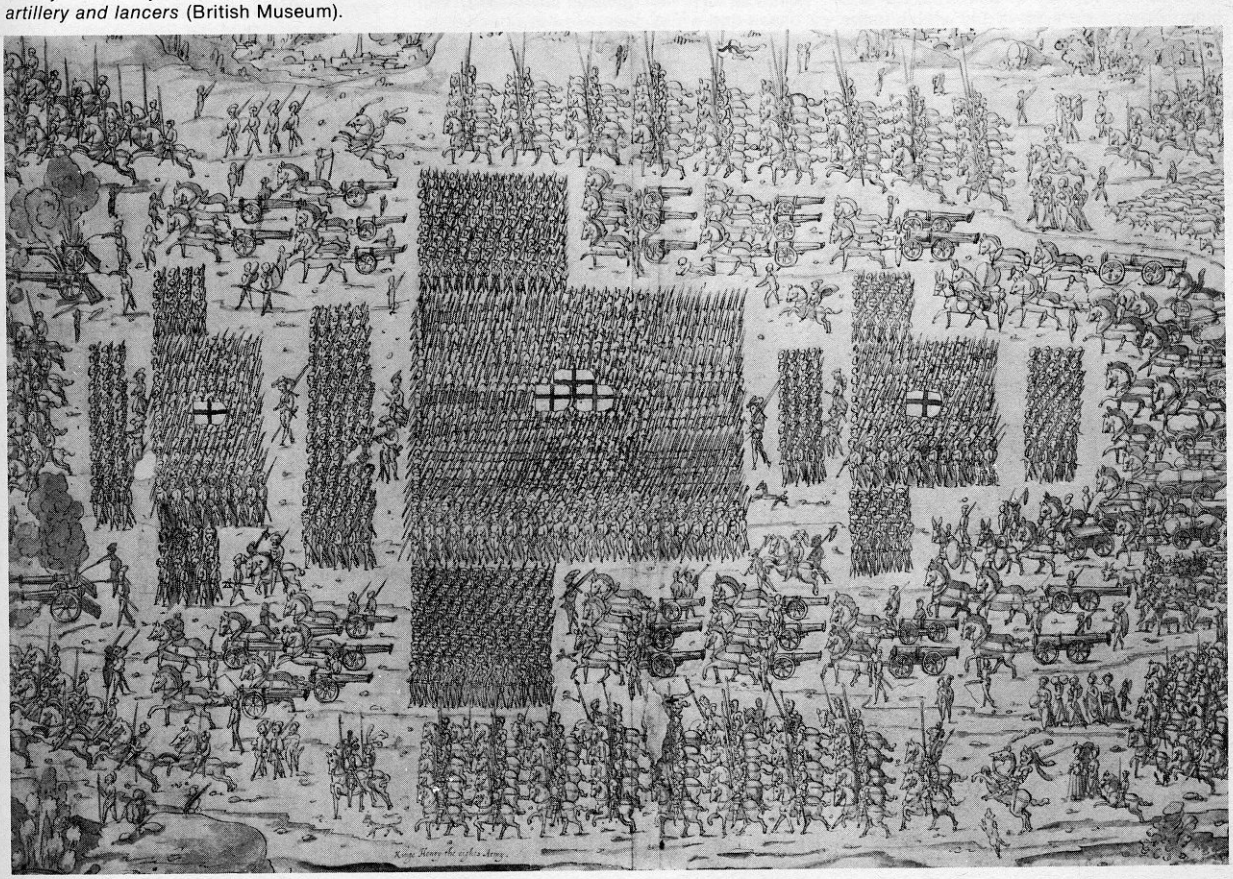
The general lines are indicated by the illustrations, and followed the lines of civilian dress of the period. Even the standing force, the small Sovereign's Bodyguard of the Yeoman of the Guard (who served both on foot with bow and halberd, and mounted with javelin) seem to have confined uniformity to jackets and caps. When raised by Henry VII, the jacket was white and green, with a rose on the chest; under Henry VIII and thereafter they wore red jackets, guarded in black, with rose and crown in gold, and red or black cap with white plumes, but breeches and hose could be of various colours. As gentlemen, the Pensioners probably scorned uniformity, but the illustrations may give some idea of their dress. When they became Gentlemen at Arms under James I, they wore red and yellow plumes.

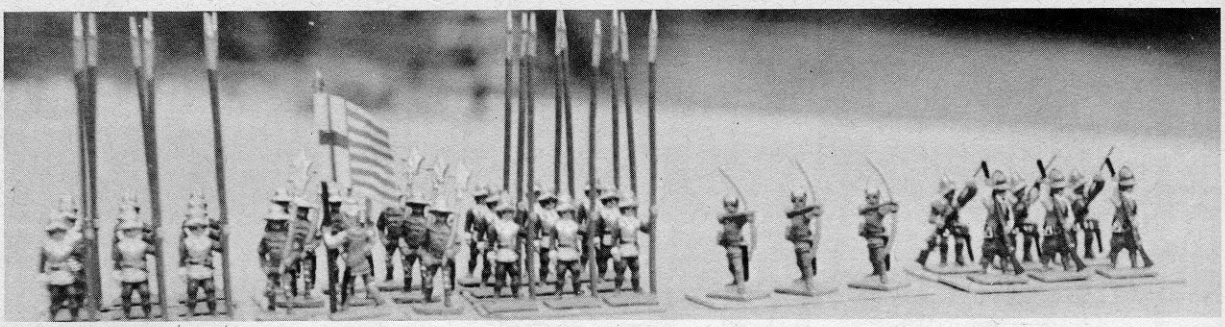
Militia contingents, which could be of company size or even larger, were supplied with uniform clothing, and some examples of this are listed: 1540 — London Trained Bands: white jackets, city arms front and back, some with buff jerkins; 1553 — Canterbury: yellow; 1556 — Reading : (billmen) blue coats with red crosses; 1550s — Surrey: (demilances) red cassock with double white guard (border); 1558 — London: white coats, slashed green, with red crosses; 1560s — Lancashire: (archers) blue cassock, double white guard, red cap, buckskin jerkin; 1560s — Derby: light blue; Stafford: red; 1576 — Lancashire: white cassocks with one red and one green lace; 1577 — Lancashire: pale blue coat, double yellow or red guard, white doublet, pale blue breeches with red or yellow stripe down seam, white stockings; 1585 — London: red; 1585 — Essex: (pikemen) blue mandelion (tabard-like garment worn over armour); 1587 — Hertfordshire: (trained bands) red coats; 1588 — Huntingdon: (the foot) 'popinjay' (parrot) green, trimmed with the colours of the captain of the company;



a *English officer of the 1580s carrying a partisan and wearing a sash, usually red in colour.* **b** *and* **c** *Two views of an English mounted bugler of the same period. Note ruff-type collar, lace on front of jacket, and dagger carried on belt.* **d** *A man of the London Trained Bands of Henry VIII's period in white jacket with red St George's cross on front and rear.* **e** *Elizabethan Yeoman of the Guard. Jacket red with black stripes and gold patterning on breast. Rose is red-white-green. Cap black with grey feather and brow band. Ruff white. Breeches yellowish, slashed pink. Hose tan, shoes black. Halberd head and sword hilt silver. Halberd shaft dark brown. Scabbard black.*

'Henry VIII's Army' — a 16th Century drawing showing the army drawn up in three 'Battles', and including billmen, bowmen, arquebusiers, artillery and lancers (British Museum).





Miniature Figurines, Warrior and Hinton Hunt figures depicting the centre and left flank of an English regiment of the mid-16th Century, with billmen, pikemen, bowmen and arquebusiers, showing the formation adopted in action. Flag is as 'D' in drawings.

(Sir Henry Cromwell's Company of Horse) straw colour, trimmed with his colours; 1590 — Canterbury: red; 1596 — London: red; 1599 — Essex: russet coat and hose.

Contingents raised by noblemen might be clad in family or other colours (for example the Earl of Surrey brought 500 men in white and green to Flodden) and it seems that larger groups were sometimes uniformed — at the siege of Boulogne, Henry VIII's Main Battle and Rear Guard were dressed in red with yellow trim, the other forces in blue with red trim — and in 1558, 8,000 English sent to aid Spain in the Netherlands all wore blue.

In the early 16th Century, white was a favourite colour for English troops (the Tudor colours were green and white); in the later part of the century red became most widely used. Blue, however, was also widely worn, and, for Irish service, cassocks (loose long or short coats, sometimes hooded or sleeveless, and worn over equipment) were usually to be of russet, green, or 'sad' colours. Cavalry in Elizabeth's reign seem to have favoured red, tawny or orange colours; Border horse usually wore white, and could wear 'blue bonnets' like the Scots. English archers, too, often wore 'Scots caps' in red or blue, over their helmets, and cavalry helmets were likewise sometimes covered with red or parti-coloured caps.

The sign of the English soldier, worn on breast and back in the first half of the 16th Century, and found on shields and pennons later, was the red cross of St George. Toward the end of the century sashes, worn about the waist or over the right shoulder by officers, and some pikemen and cavalry, became the usual national distinction. Red, or red and white, seems to have been worn by the English.

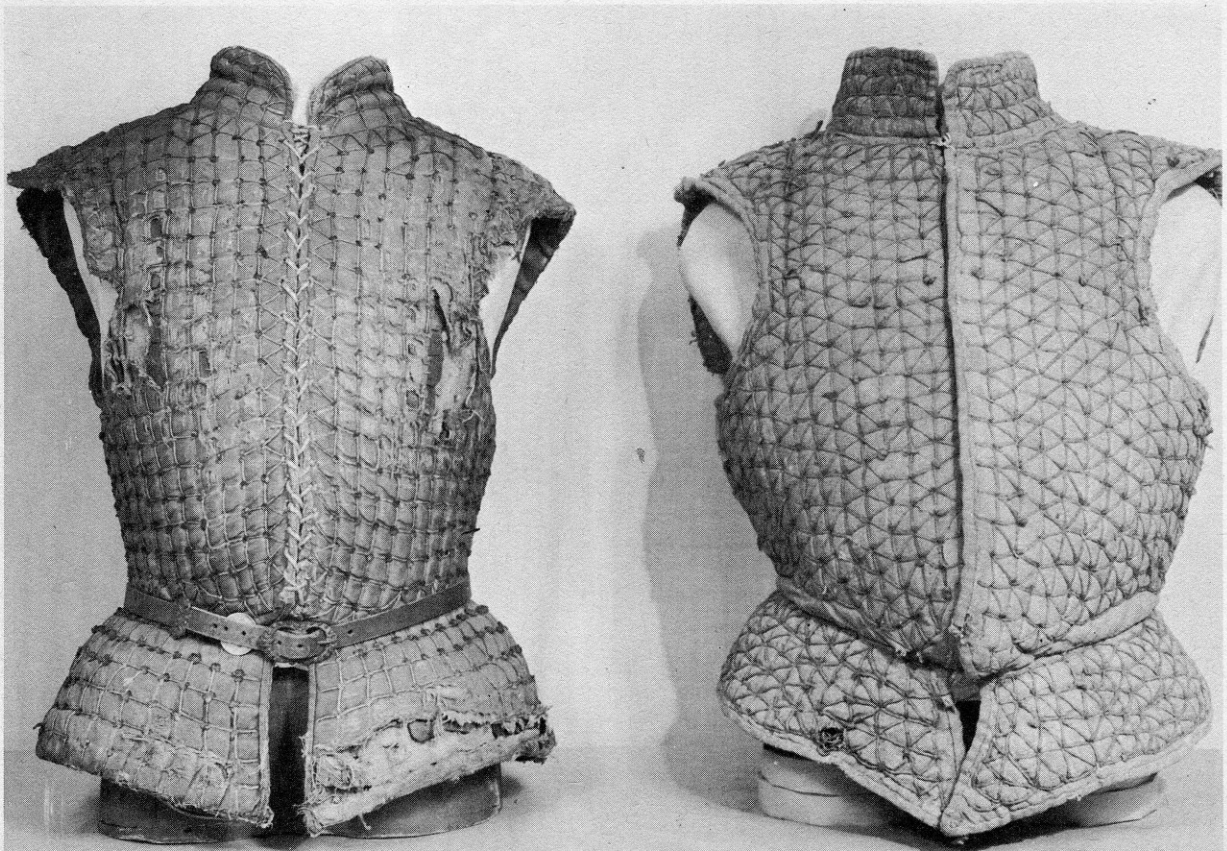
Officers were distinguished from their men, just as in other armies of this period, by armament (sword and buckler, half-pike, or partisan being favourite officers' weapons), and by rich clothing with silk and lace, gold or silver trim, decorated armour, and jewellery.

Flags

A number of English flags are shown. The St George's cross on a white ground was evidently most common, sometimes combined with Tudor green-and-white, or the Tudor rose, but striped flags are often shown in paintings from Elizabeth's reign, possibly influenced by the Dutch.

Noblemen's units would be likely to display family crests or badges in case of cavalry, as with one guidon shown. At the battle of the Yellow Ford in Ireland, Percy's Regiment had a standard with silver crescents (a badge of the Percys) which could indicate something like the later Civil War system for company flags (see Chapter 22).

English jacks of 1580 (Tower of London).



10

The Irish

Until the rebellion of Shane O'Neill in the 1560s, the Irish indulged in constant raiding and ambushing, frequently of each other, occasionally fought a single battle, but did not really fight wars. From 1561 to 1603, however, there were a series of campaigns against the English, culminating in that of Tyrone, which was on a really large scale.

In the early part of the 16th Century the warriors of Ireland were very traditional in armament and tactics, but as the wars continued more 'up-to-date' weapons made their appearance and some full scale battles were fought, though the traditional 'guerrilla-type' tactics were more successful, as in the Irish victory of the Yellow Ford, 1598.

The Irish made good use of difficult country and of field fortifications, digging trenches and 'plashing' trees into impenetrable barriers, often in connection with an ambush.

Traditional types

The Gallowglass

These were originally Scots mercenaries, but by the 16th Century their clans or 'septs' had often been settled in Ireland for two or three centuries (the most famous were the Mac-Donalds and the McSweeneys); they were still mercenaries, but often owed loyalty to a particular noble (in fact in 1568 there were three septs of the 'Queen Majesty's Galloglasses'). They usually wore an iron bascinet, and either a mail shirt or a short cape of mail over a padded quilted coat called a 'cotun' and their characteristic weapon was a heavy two-handed axe, up to six feet long, which could chop the enemy's head off with a single blow (it was still used in 1588 when McLaghlin M'Cabb killed 80 Spaniards from the Armada with one).

Gallowglasses were organised in 'Battles' of 80 or 87 men, but each gallowglass was accompanied by two boys, who carried his supplies, armour, and his secondary weapons, three light Irish javelins or 'darts'.

The Kern

The ordinary Irish foot soldiers, made up partly of 'bonnachts', or Irish mercenaries maintained by the various nobles, and partly of free peasantry called out to fight. The bonnachts might sometimes be dressed like the gallowglasses, or else like the 'rising-out', as the peasants were called; that is, no armour, simply the traditional Irish dress of a linen tunic with very wide sleeves, often dyed yellow with saffron, usually worn over tight trews of a plain colour, and sometimes covered with a very short coat of goat's hair or a large mantle or 'shag-rug', patterned, and with a long fringe of 'an agreeable mixture of colours'.

Bonnachts might have been armed with the 'sparth-axe', but the usual weapons were javelins or 'darts' of which each kern had a handful; even the English admitted

An Irish chief, probably in a type of brigantine, prepares to mount for a raid (British Library).



that the Irish were extraordinarily skilled with this weapon, but said it was 'More Noisesome, especially to the Horse, than deadly'.

A few of the kern also used the bow, and a sword or spear and shield might be carried; the shields were oval and convex, of wood or basket-work. Each man would also carry a 'skean' or long dagger. They were often clean-shaven but wore flowing moustaches and a mop of shaggy hair or 'glibb' falling over the forehead (banned by the English as making it difficult to recognise their 'thievish countenances').

Their tactics were normally those of skirmishers, especially in difficult country where, often, no other troops could move, but they could also charge fiercely in the right circumstances, clashing their weapons together with a loud cry of 'Pharroh!' (probably really 'Faire' — 'Watch out!'; anyone who didn't join in was popularly supposed to be wafted off to a mysterious valley in Kerry and Never Seen Again!). What they couldn't do was to stand up against cavalry in the open.

The Catholic Confederates

After the defeat of O'Neil and the crushing of his followers there was no war in Ireland until the 1640s, when Catholic uprising became confusingly involved with the Civil War situation in England. In the 1640s, Owen Roe O'Neill, the ex-commander of an Irish regiment in Spanish service, led the army of a Catholic Confederation (claiming loyalty to King Charles) to considerable success against Scots and Parliamentary armies. The 'rebels' this time included both 'Old Irish' and Anglo-Irish, and were armed largely by Spain and organised on Spanish lines. The Anglo-Irish would probably wear English-style coat, breeches and hose (just like any English Civil War troops; while many of the 'Old Irish' might still be in traditional dress.

At the Irish victory of Benburb (1646) Owen Roe had seven infantry regiments; his own and that of Alexander MacDonnel were of 15 companies (1,500 men) and the rest of ten companies (1,000 men). They were made up about half and half of pikemen and musketeers, and drew up in the usual fashion with pike in the centre and shot on their flanks. The pikes were longer and smaller-pointed than British ones.

There were also nine troops of horse, some at least of them being lancers after the Spanish fashion.

Later, at Dungan's Hill, the Catholic army included four ox-drawn demi-culverins and 800 Scottish 'Redshanks', armed chiefly with sword and targe. The Earl of Ormonde, who subsequently led all Royalist forces in Ireland, had among his Lifeguard a regiment of fusiliers with flintlock muskets.

Irish flags

The cross of St Patrick was not apparently considered as a symbol of Ireland at the time. Two 'national' flags which may have been used in the 16th Century are a blue flag with three gold crowns, and the traditional Irish harp in gold, probably *then* on a blue ground.

In the 'Desmond Rebellion' (1579-83) the rebels had the Pope's banner, presumably red with the crossed keys of St Peter in silver and gold beneath the triple crown of the Papacy.

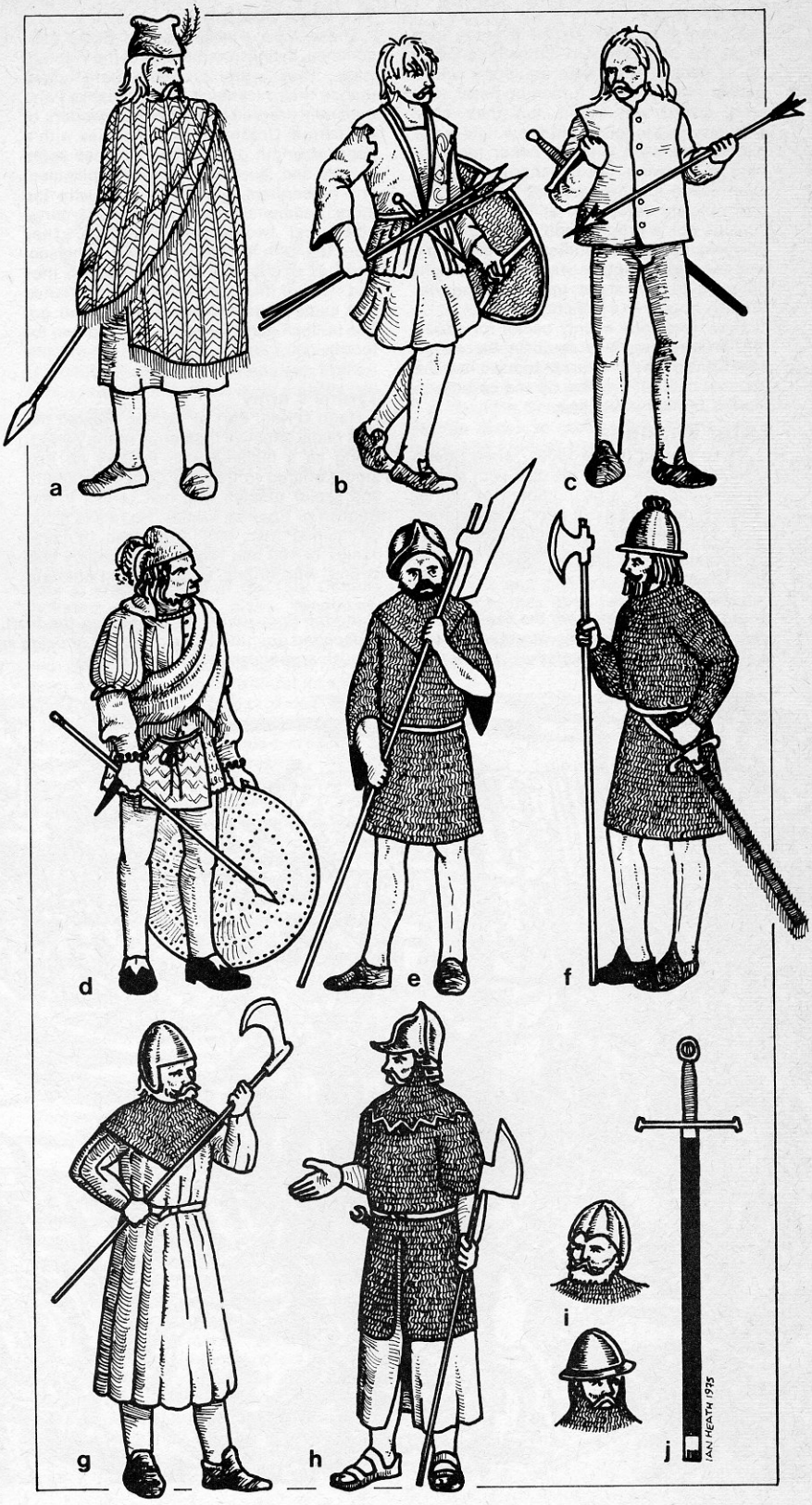
Tyrone had recognised Philip II of Spain as King of Ireland, and had the support of Spanish troops, and it appears that some of his units carried 'Spanish Flags' of white bearing the red diagonal cross raguly of Burgundy, but they had other flags too.

The 17th Century Confederates seem to have been the first to use a *green* flag with a golden harp but also employed flags with the 'Irish Cross' shown.

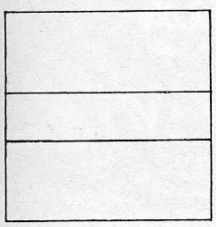
This print from John Derrick's The Image of Ireland *(1581) shows Ulster Kern indulging in their usual raiding. The particular type of jacket worn, with pleated 'frill', is probably an Ulster variation. At lower left the men with long axes are probably bonnachts. Note the bagpiper* (British Library).



a *Irishman in mantle. Cap is of a type worn by Irish irregulars in Europe.* **b** *Kern with 'Skean', shield and darts. Tunic is simpler than the Ulster version shown in Derrick's prints. Note type of surcoat.* **c** *Kern, early 17th Century. He wears a very short, loose coat of blue and tight hose (pinkish-red seems to be the usual colour). He holds his sword under his right arm (the Irish are often shown holding sheathed swords, rather than having them slung from belts). In his left hand is a javelin, in this case having actual flights, like a modern dart. He wears dark leather brogues.* **d** *Irish chieftain, 17th Century. He holds a black, gold mounted javelin in his right hand, and a shield (a large oval affair, covered in red leather and decorated with studs) in his left. His conical cap is of tooled red leather. He wears a slashed doublet with half sleeves, the traditional fringed cloak and red hose, and a decorated 'Erse apron'.* **e** *and* **f** *A pair of Gallowglasses, both from sketches by G. A. Hayes McCoy. 'f' has a somewhat Scandinavian look and not surprisingly comes from a charter granted to Dublin in 1583. He has a typical sword and scabbard, tall helmet with small crest (?), and long-handled axe. 'e' comes from a map of 1567. Note baggy sleeves, mail cape, typically 15th Century bascinet, and seven-foot Lochaber axe. Both are barelegged, and could have been barefooted too.* **g** *Gallowglass in 'cotun', mail cape and helmet.* **h** *Gallowglass in mail cape and skirt and cavalry-style helmet. Note different shape of axe (based on a Dürer drawing).* **i** *Two alternative Gallowglass helmets. The upper drawing depicts a 15th Century padded type.* **j** *Typical Irish 16th Century sword. Note ring at base of hilt with tang passing through it, and square-ended scabbard. Irish swords of this period were usually straight, and large. The accompanying Derrick prints show alternative scabbard types, especially those with a dagger strapped to the outside of the scabbard.*



Flags shown in a print of the Irish force at the battle of Erne Fords in 1593. Infantry flag on left, cavalry on right. Colours not known. The cavalry flag may be an 'Irish Cross'. Something similar in red on white was carried by the 17th Century Catholic Confederates.





The cavalry

A small proportion of the average Irish force, the cavalry would normally be made up of gentry. They were equipped with a helmet with a strange turned-up nasal, mail shirt, sword and shield, but their chief weapon was a longish light spear held in the middle and used overarm either for stabbing or throwing, not couched as a lance. One reason for this was that the Irish, like their ancient forebears, still used neither stirrups nor a proper saddle (though their checked, pillow-like saddles may have had a wooden tree); another was that their light cobs could not stand up to the heavier English horses in a full charge.

They were thus mainly useful for scouting, skirmishing, or pursuit. In the earlier 16th Century the Irish seem to have had the unusual habit of drawing up the cavalry on the *left* of their battle line.

Later changes

These started in the 1560s, when Shane O'Neill began to equip his men with arquebusses, impress large numbers of unfree peasants, and hire extra Scots mercenaries from overseas. By 1569 musketeers and mailed pikemen had appeared in Irish armies.

The 'New Scots'

These were a new wave of Scots mercenaries, mainly recruited from the Western Isles. They were probably bare-legged (hence their nickname of 'Redshanks') and generally dressed like other Highlanders of the period. Organised in companies with a paper strength of 100, they included some cavalry and 'shot' with firearms, pikemen, and halberdiers, as well as men with the more traditional Highland weapons, longbows and two-handed claymores. They were found in most Irish armies in the second half of the 16th Century, though they had most of the usual faults of mercenaries and came quite expensive (each man got one bullock per quarter for pay and two for food!).

Tyrone's army

Hugh O'Neil, Earl of Tyrone, created the first really effective Irish army of the period, using as a nucleus Irish infantry he had kindly offered to train for Queen Elizabeth, and senior officers who had served in the English or Spanish armies. He raised 6,000 disciplined Irish foot, organised in companies of 100 and regiments probably 500 strong, with drums, bagpipes and colours, and armed with matchlock muskets and pikes (the musket bullets were made out of lead imported from England, ostensibly to re-roof O'Neil's castle of Dungannon). There were at least two musketeers to every pikeman, probably more.

Tyrone also reorganised the cavalry, equipping at least 300 'in the English fashion' with light lances and (presumably) stirrups; however, his cavalry, though good at harassing tactics, still could not stand up to the English in the open.

Generally, gallowglasses had become pikemen, kern musketeers, and dress and armour was probably little changed, though one of O'Neil's regiments wore red coats (probably his original troops for English service), and his men were said to have plenty of 'graven murrions' (morions).

On the flanks of his 'regular' forces, numbers of skirmishers with the older types of weapon operated, and there were also 'New Scots', including Tyrone's own bodyguard of 200 musketeers.

Tyrone normally used harassing tactics in difficult country, but at the disastrous battle of Kinsale his forces drew up in the open in three large tercio-style blocks.

Another Derrick print from the same source showing the English (on left) defeating the Irish. In the foreground 'Northern Horse' in mail charge the typical Irish cavalry who are very well depicted (including their method of using spears). In the background a 'pyper' lies dead, while axe-armed Gallowglasses run away from English arquebusiers (British Library).



11

The Scots

Like the Swiss, the Scots provided a steady flow of mercenaries to richer nations, serving with distinction, most notably in French, Dutch and Swedish armies, where they provided both complete regiments (including part of the French Royal Household) and many distinguished commanders. However, we are here concerned with actual Scottish *armies* of the period, and their service was confined to the British Isles.

In the 16th Century there was a continuous conflict of raid, counter-raid and minor battle on the Border, punctuated by the great clashes of Flodden (1514) and Pinkie (1547), both Scots defeats, plus internal conflict in the later part of the century, involving the expulsion of French forces with English aid. In the 17th Century the Scots played a notable part in the Civil Wars, raising both the grimly efficient armies of the Covenant, which fought in all three Kingdoms, and the dashing Royalist army of Montrose (in whom Scotland produced arguably the greatest general of the period).

The Lowland pikemen

The spear was the traditional weapon of the Scots, suited to a poor land with little cash or metal to spare and dependent on an armed peasantry for defence; the solid blocks of spearmen or 'schiltrons', which met the English on many a medieval battlefield, had a long history behind them, back possibly to the ancient Picts, who had also formed tight clumps of spearmen in battle.

For the Flodden campaign, James IV replaced spears with imported 'Swiss Pikes', 15 feet long, accompanied by 40 French captains to instruct the levies in Continental tactics. Scots pikemen formed shoulder to shoulder in columns at least as deep, and often deeper, than they were wide. In defence the front rank crouched so low that they almost knelt, with the pike-points of the rear ranks crossing those of the front, as easy to encounter as an 'angrie Hedgehog'. In attack they came on, at Flodden, 'Almayne (German) fashion, very orderly and with no shouting', but it is reasonable to suppose that their levies, though very brave, were less well-drilled and disciplined than Swiss or German professionals.

Earlier they had been formed into units of about 500, and these may have remained, but the tactical columns were much larger: at Pinkie basically three huge 'battles' which must have been at least 7,000 strong; at Flodden these were, perhaps with French advice, divided into about eight smaller columns, mostly around 5,000 strong.

Scots forces were based on a militia system not unlike that of England, Scots being obliged to equip themselves for war according to rank, and gentry to maintain feudal contingents, appearing for the Sheriff's inspection at biannual 'Wappinshaws' (perhaps lured by the free drinks sometimes provided!). The weapons listed as acceptable at Wappinshaws of the 16th Century included spears and pikes, longbows, crossbows, two-handed swords, halberds, Leith axes and Jedwart Staves (the latter two were long, broad-bladed two-handed axes, similar to a halberd without its spike). Hand guns were also to be provided, and by 1535 landed men were ordered to equip themselves with an arquebus-a-croc, but at Pinkie the Scots had few firearms — in fact lack of missile power was a major weakness in their 16th Century armies.

Mid-century Scots pikemen mostly wore a simple iron helmet, a jack, and white doublet and hose, the sleeves and thighs of the latter being guarded against sword-cuts by four or five rows of brass chain. A large kerchief was wound three or four times round the neck, 'Not for cold, but for cutting', and further protection was provided by a round buckler held in the left hand, even when grasping the pike; secondary weapons were broadsword and dagger. Lowlanders of the 16th Century commonly wore the 'blue bonnet', and other usual clothing colours were grey and light blue.

Pikemen formed 70 per cent or more of Scottish armies at the larger battles of the period.

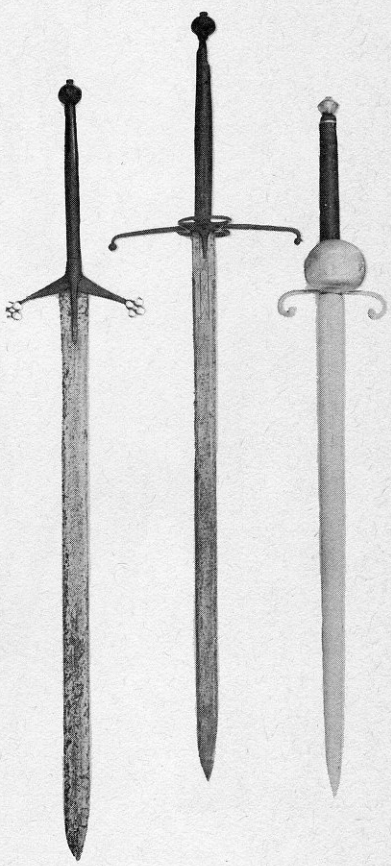
Highlanders

All Highlanders were warriors, following their chiefs to battle, and in the 16th Century still roused by the sending round of the 'fiery cross' summoning them to the traditional mustering-place. They were found in all Scottish armies of the period; usually 15 per cent of the larger ones.

Their arms, even in the 17th Century, were, firstly, the bow: Highland archers in Leslie's army in 1644 were said to be able 'To kill a Deere in his Speed' and there is no reason to believe English strictures on Scottish shooting; secondly the claymore, which throughout our period was a *two-handed* sword. Dirk, and a flat round 'targe', usually leather-covered and decorated with embossing and metal nails and boss, sometimes spiked, would also be carried.

In the 17th Century, basket-hilted broadswords began to replace the original claymore, and firearms began to spread among the Highlanders. A roll of Atholl men in three parishes in 1638 shows the proportions of weapons available: 523 men had 110 'guns' and two 'hagbuts' to 149 bows. There were also 11 pistols (probably the characteristic Scottish all-steel pistol with fishtail butt), 11 long axes and halberds. There were 448 'swords' to only three two-handed swords.

16th Century Scottish claymore swords (Department of the Environment).



Only 11 men had helmets and mail shirts (perhaps indicating 11 with 'gallowglass' type equipment) but 125 had targes.

In the 16th Century the Highlanders, if not equipped with a helmet, would be bare-headed, but in the 17th Century they adopted the blue bonnet from the Lowlanders. Basic costume also changed around the turn of the century; 16th Century Highland dress consisted of the 'leine croich', a linen knee-length shirt, usually dyed yellow with saffron, and worn with a voluminous mantle or plaid secured with a brooch. After 1600 the leine disappeared and was replaced with the 'belted plaid' which gave the appearance of the later kilt and plaid. Stockings were also adopted for the first time, footwear remaining slashed rawhide brogues.

In both centuries short coats and trews could also be worn, the latter being in the 16th Century sometimes knee-length, in the 17th sometimes baggy to the knee.

The only protection commonly worn by 16th Century Highlanders was a tar-stiffened leine covered with deerskin, but in any case they often stripped for battle, though sometimes retaining the shirt, the sides of which were tucked into the belt, the resultant 'tails' at front and rear being tied between the legs; an Englishman described some in 1640 as the 'nakedest fellows I ever saw', and they were on *parade*.

Up to the 16th Century, a chief might wear a padded coat, as described for gallowglasses.

Plaids, often trews, and sometimes jackets were chequered, striped or parti-coloured, frequently in early tartan patterns which were simple and with a large 'set'. As yet they did not identify clans, and a simple black and red 'Rob Roy' style seems to have been popular. Other colours favoured were purple, blue and brown.

Highlanders were ferocious but unreliable, relying either on skirmishing or a single volley followed by a wild charge; they hated, and would not stand up to, cannon, which they called 'the mother of muskets'.



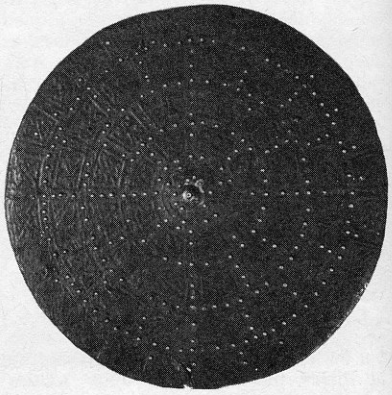
a *17th Century Highland mercenary with arquebus. Wears bonnet, baggy trews and a coat. Note short, broad single-edged sword.* **b** *16th Century Highlander with 'skull', bow, targe and claymore, wearing leine.* **c** *16th Century Scots pikeman in jack. Note chain protection and shield.* **d** *Mid-17th Century Highland chief. Belted plaid. Closely resembles later Highland costume.* **e** *Highland archer in belted plaid and blue bonnet, 1630s.* **f** *16th Century Highlander. He has stripped to his shirt which he has tucked up and knotted round his waist. His equipment includes a conical helmet of 'celtic' type, which could probably still be worn in the early 16th Century; a spiked targe; and a Lochaber axe (note hook for cutting reins, etc).*

Right *Carberry Hill. Forces of the (Scots) Confederate Lords. Note baronial banners, arquebusiers and archers.*



Guidon of David Boswell of Balmuto, captured at Pinkie.

18th Century 'targe' — 16th/17th Century ones would be similar (Department of the Environment).



Cavalry

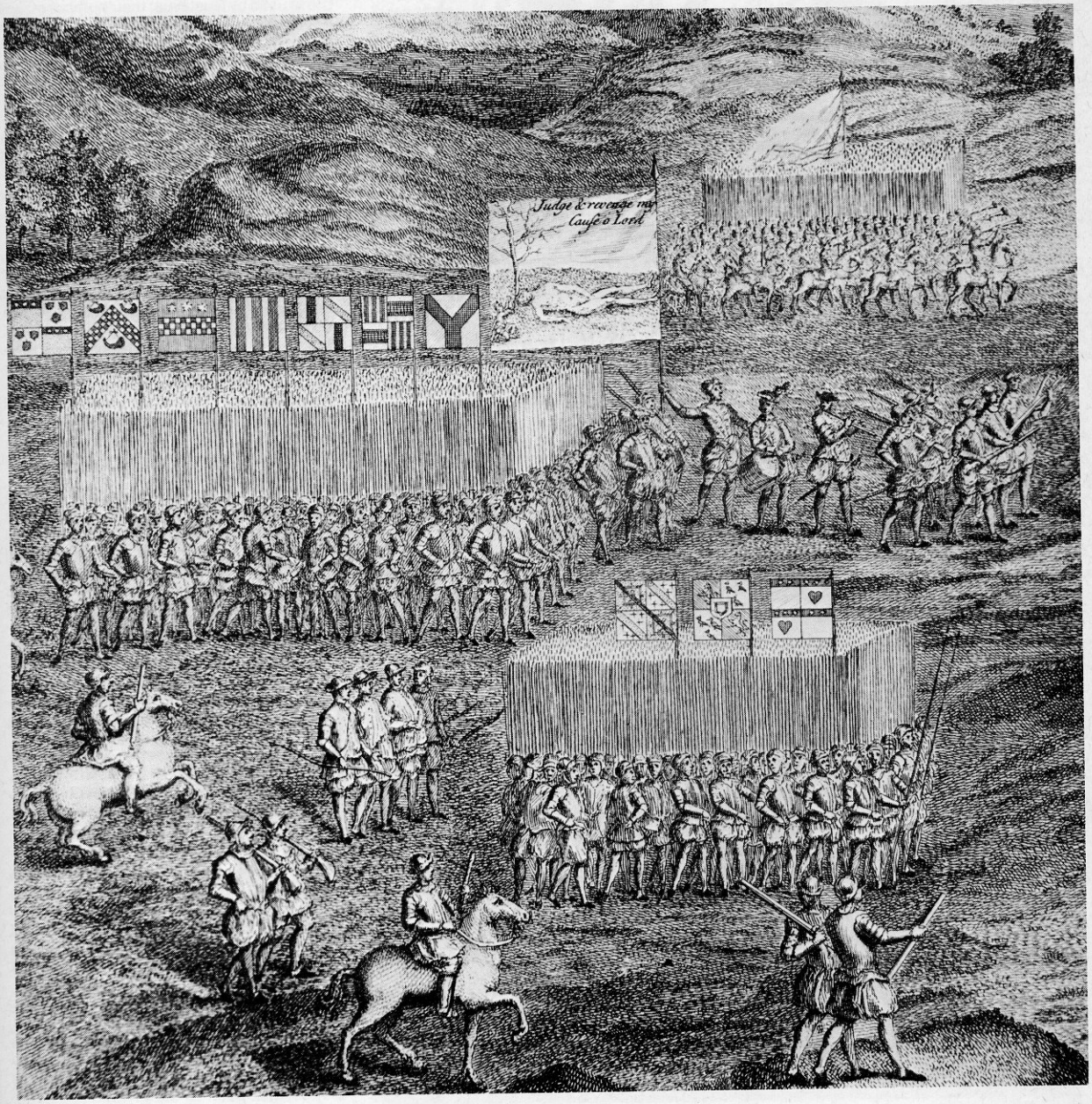
A very small component of most Scots armies, at least in the 16th Century (about five per cent at Pinkie). Even in the 17th Century the Scots suffered by being lightly-mounted on 'small, scrubby nags' better suited to Border skirmishes than a stand-up fight. Wappinshaws suggest that the ordinary gentry would wear corselet, jack or brigantine, bascinet helmet, gorget, 'splints' for arms and upper legs, and mail hand and knee protection. Great nobles could have full plate armour though even King James IV is mentioned as clad in a sallet with hauberk and jack under his silk emblazoned surcoat. Basic weapon would be the lance but at both the great 16th Century battles the King and nobles dismounted and fought in the front rank of the pike columns (incidentally rendering them practically invulnerable to English archery).

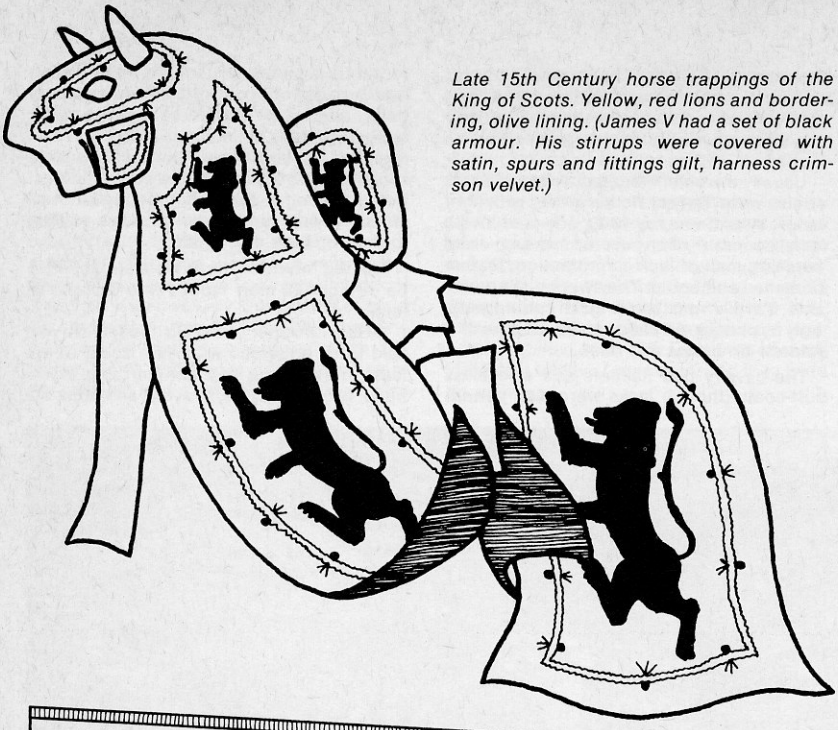
Usually the chief mounted troops of Scots armies were 'Border Horse' armed with light lance, sword, and, by 1600, one pistol, with 'steel bonnet'— often covered by a cap — and corselet, mail or jack as protection; leather breeches and boots. They were distinguishable, if at all, from their English counterparts only by chequered plaids and the saltire of St Andrew on breast and back.

The cavalry had helmets and sleeveless buff-coats (though jacks were also permitted) and were supposed to carry either pistols and broadsword, or light lance, the latter being apparently carried by a great many, including the Commander-in-Chief's own regiment. Lances were somewhat anachronistic by this time, but seemingly effective, breaking a Royalist foot regiment at Marston Moor and causing some trouble to the Ironsides at Dunbar.

The regiments of Horse were supposed to be of eight 60 man Troops (the C-in-C's of ten).

A Scots trooper of the Bishops' Wars was said to be equipped with 'fyve schot at the least, quhairof he had ane carrabin in his hand, two pistollis be his sydis, and uther tva



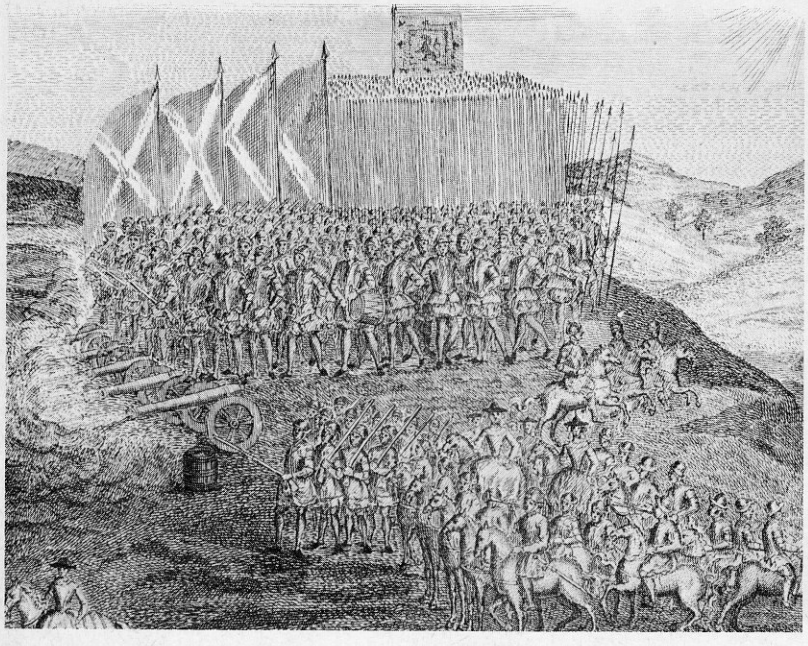


Late 15th Century horse trappings of the King of Scots. Yellow, red lions and bordering, olive lining. (James V had a set of black armour. His stirrups were covered with satin, spurs and fittings gilt, harness crimson velvet.)



Standard of the Earl Marshal of Scotland, carried at Flodden. White with red lettering, brown stag's head, silver or grey antlers.

Carberry Hill (1560s). Mary Queen of Scots' troops, with royal and national standards, and artillery. (National Army Museum).



at his sadill torr', but in general Scots cavalry seem to have had fewer pistols among them than the English.

As usual there was a strong train of artillery, which in 1644 had: six Demicannon, one Culverin, three Quarter cannon, 54 Demiculverin, three Iron pieces and 88 'Frames' (these were very light guns for infantry support, the brainchildren of the famous Scots artillerist 'Sandy' Hamilton, who had served Gustavus Adolphus. He had invented an ultra-light 12 pounder gun, three feet long, which could be carried by one horse, and also some kind of multi-barrel infantry support weapon on a wheel-barrow-like mounting. The 'frames' could well be these, or light field pieces like those used by Gustavus; their number makes it seem likely that about four were attached to each infantry regiment.).

A second army of nine infantry regiments and three Regiments and nine Troops of Horse was despatched in 1644, and in 1647 the Scots recast their forces into a 'New Modelled Army' of seven Infantry Regiments, each of 800 men in six companies, 15 Troops of Cavalry (80 each), and two 100 man companies of Dragoons.

Montrose's army

Montrose won five victories for the King over greatly superior Covenant forces (they were second-line, most of the best troops being in England), with a tiny and improvised force never over 3,000 strong. The heart of his force was an 'Irish Brigade' of three regiments about 1,100-1,500 strong in all, under the giant Alastair MacDonald ('Colkitto'). 'Irish' was also used to describe West Highland Scots in this period and the Brigade was probably a mixture; they seem to have been mainly experienced soldiers, presumably from the European wars.

Primarily musketeers, they used the new three rank deep volley-firing tactics, but also acquired sword and targe and could follow their volley with a devastating charge; against cavalry they compensated for their lack of pikes by opening ranks and letting the horsemen through, then firing into them as they passed. They wore bonnet, coat and trews, as did Montrose himself, who carried sword, shield and half-pike.

The rest of the army consisted of highlanders with traditional dress and weapons (though they probably obtained firearms, etc, from the defeated enemy), and about 300 Gordon Horse, who were armed with pistols. Artillery from one to nine pieces according to captures and transport difficulties.

Flags

The national flag in use long before this time was the 'auld blue blanket' with the white saltire of St Andrew; Scots 16th Century armies would also display the banners and guidons of the nobility, some of which are shown. At Pinkie, one Scots flag bore the Church personified, kneeling before Christ, and the motto 'Ne Obliviscaris Domine Sponsae Afflictae'.

The Royal banner — yellow with a red lion and red trellised border, would be flown by the King, but could also be used by his Lieutenants, such as Montrose.

In Montrose's separate and doomed campaign of 1650, his own flag was white, showing a lion about to leap a river between two rocks, and the motto 'Nil Medium'. The horse and foot had black flags, bearing respectively three pairs of clasped hands holding swords and the motto 'Quos Pietas Virtus et Honor fecit Amicos', and the severed head of Charles I with the motto 'Deo et Victricibus Armis'.

Some clans would have their own symbols, derived from leaders' badges, or like the bunch of heather on a spear still carried by the MacDonalds in this period.

Artillery

Usually a strong point with Scots armies, though not always very effectively used. The train as ordered for the Pinkie campaign was of: two Cannon, one Culverin Bastard, two other Culverins, one Pas Volant; and for Flodden: five Cannon, two Culverins, four Culverin Pykmayne and six Culverin Moyane.

Scottish cannon were nearly all brass, and largely ox-drawn, a cannon needing a team of 36, Culverin Pykmayne 16 and a horse, Culverin Moyane eight and a horse. The Pinkie train was of 500 men including pioneers, a drummer and their own standard-bearer.

The Scots were also fond of 'battery' guns with multiple barrels on a single carriage, possibly to compensate for lack of infantry firepower; as early as 1522 they had '1,000 hagbushes carted upon trestles' and at Pinkie planned to use '20 brass pieces on little carts'.

17th Century Covenant armies

The force sent under the Earl of Leven to aid Parliament in the Civil War consisted of the following units:

Infantry

Regiment	Colonel
Kyle and Carrick	Earl of Cassillis
Galloway	William Stewart
Fife	Earl of Crawford-Lindsay
East Lothian	Sir Patrick Hepburn
Strathearn	Lord Coupar
Loudon-Glasgow	Earl of Loudon
Midlothian	Lord Maitland
The Merse	Sir David Home
Stirlingshire	Lord Livingston
Tweeddale	Earl of Buccleuch
Edinburgh	James Rae
Fife	Earl of Dunfermline
Clydesdale	Sir Alexander Hamilton
Perthshire	Lord Murray of Gask
Teviotdale	Earl of Lothian
Nithsdale and Annandale	Douglas Kilhead
Angus	Viscount Dudhope
Linlithgow and Tweeddale	Master of Yester
Mearns and Aberdeen	The Earl Marischal
The Ministers' Regiment	Arthur Erskine
The Levied, or College of Justice Regt	Lord Sinclair

(Only two or three of these Colonels had military experience, but nearly all the Lt-Cols had.)

Cavalry

Colonels

Leven (C-in-C)
Leslie (Maj-Gen Sir David)
Earl of Eglington
Earl of Dalhousie
Lord Gordon (troop)
Lord Kirkudbright
Earl of Balcarres
Marquess of Argyll's Troop
Michael Weldon

Dragoons

Col Hugh Frazer (4 companies)

The infantry were raised from all those eligible to serve, between the ages of 16 and 60. They were predominantly pikemen and musketeers, in the proportion of 2:3. However, those who could not be equipped with musket or pike were ordered to have halberd, Lochaber axe or Jedwart stave, and there were also some Highland archers in native dress. Lowland infantry would appear similar to English troops of the period, though some probably wore bonnets. The regiments were not generally uniformed though the Mearns and Aberdeen men were probably redcoats, as were those of at least one of the six Covenanting Regiments serving in Ireland over this period (Col Hume's). Pikemen are said to have lacked armour, but probably had jacks or buff-coats.

By 1644 regiments had from five to ten companies and the stronger ones were of about 450-500 men.

12

The Spanish

The infantry

Spain was very definitely the dominant military power of 16th Century Europe, primarily because her troops were the only real 'regulars' west of the Ottoman Empire — 'regular', that is, in the sense that they alone were *permanently* employed, since Spain was permanently at war. Spanish forces alone provided anything like a proper career-structure for officers, for the same reason, and, partly for this reason, enjoyed the best generalship of the period. Spanish armies of the 16th Century acted as models and training schools for many others.

Spanish commitments were as great as Spanish wealth, and her troops fought in Spain itself, Oran and Tripoli, Italy, Ireland, France, Central and South America, and above all, in the Low Countries, under Spanish control from 1519. Under Charles V (1519-58), Spain and the Holy Roman Empire were temporarily united, and even into the 17th Century Spanish forces co-operated with Imperial ones; Franco-Dutch-Spanish conflict was renewed through the 30 Years' War period. However, by this time, the economic and political decline of Spain was sapping the strength and morale of her troops, and their deterioration was highlighted by the disaster of Rocroi (1643), a defeat, at French hands, from which Spanish military power never recovered.

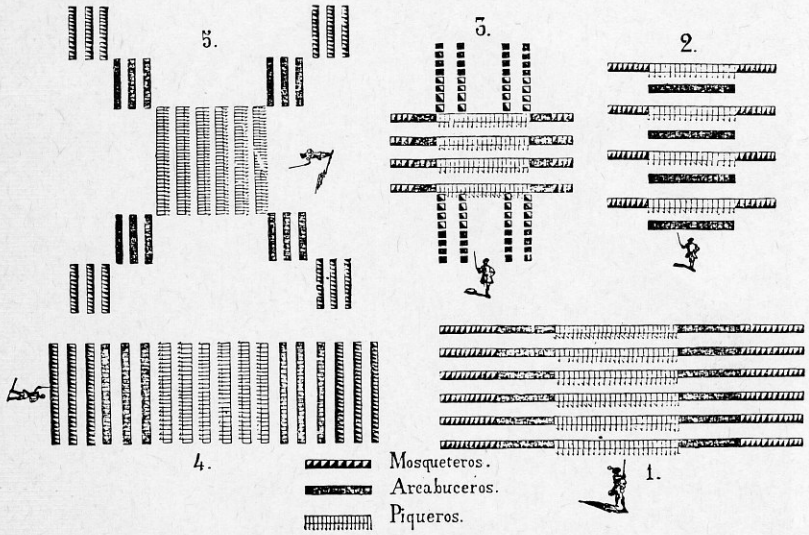
Their Catholic Majesties, Ferdinand of Aragon and Isabella of Castille, undertook, at the end of the 15th Century, a thorough reorganisation of the rather heterogenous forces of their newly-united kingdom, and it was from this that the 16th Century Spanish army sprang.

The main force for home defence and the support of the Civil Power was the militia of the fortified cities, the Hermanadad (Brotherhood), which included both cavalry and infantry. It was reorganised into battalions of ten 50 man companies each, those of Andalusia (1490) having seven per cent with firearms, 33⅓ per cent crossbowmen, 42 per cent spearmen or pikemen, and the rest pioneers and craftsmen. A sort of uniform was worn, consisting of a white woollen over-tunic with a hood, sleeves tight at the top but flaring out widely from the elbow, and a red cross back and front. Trousers (probably tight hose) were also red; boots or sandals were worn. Helmets were commonly of sallet type, much favoured in Spain (and, indeed, generally) at this time. Provincial militia served throughout the period, mainly against rebellions — in 1567 they were 33⅓ per cent crossbowmen, 66⅔ per cent arquebusiers, while the cavalry had lances.

A standing army under fuller royal control was started in the 1490s with Gendarmerie (see below) and Constabulary 'of the Ordinance', on Burgundian lines. The latter were infantry, formed in 100 man companies, and probably similar to the Hermanadad troops in appearance. One-third were pikemen (modelled on Swiss mercenaries), one third Aragonese sword-and-buckler men, and one-third crossbowmen and arquebusiers.

Once an army was created, and the Moors finally conquered (1492), a more active foreign policy was possible, and the Spanish armies first began to make their mark in Europe in the early Italian wars, under the great Gonzalo de Cordoba.

A high proportion of this expeditionary force were crossbowmen, and there were still many sword-and-buckler men, but the former were steadily replaced by arquebusiers, and the latter, despite the striking success against pikes mentioned in Chapter 2, by pikemen, who had some chance of standing in the open against cavalry. Infantry firepower — the first use of massed arquebusiers — combined with skilful use of field fortifications, was, however, the key to early Spanish success.



1. Escuadron en batalla.
2. Escuadron guarnecido con mangas dobladas en las hileras.
3. Id. id. con mangas perfiladas.
4. Escuadron marchando por el flanco, en el órden profundo.
5. Id. guarnecido con mangas destacadas.

Contemporary drawings of Tercio formations.

a *Officer, late 16th or early 17th Century, wearing half armour, ornate morion with plumes probably red-white-red, and red sash. Rapier has a round guard.* **b** *Late 16th or early 17th Century arquebusier wearing morion, hanging sleeves and knee-length baggy trousers. Note tasselled pouches and match on belt.* **c** *Crossbowman, late 15th or early 16th Century. He wears tight hose, studded brigantine with mail sleeves, sallet helmet, plate protection at knees and Moorish boots. Pikemen, swordsmen and arquebusiers could be similar.* **d** *Sergeant of a Tercio, 1534. Pikemen would be similar.* **e** *Arquebusier in sallet, corselets and short tassets, early 16th Century. He wears a long-skirted tunic over hose and soft shoes, and could have had shoulder and elbow protection as well, or no armour at all. Again, pikemen could be similar.*

The troops were divided into 'Colunelas' (columns) under 'Coronels', at first of about 600 men in three 'squadrons'. In 1505, 20 Colunelas, of 1,000 to 1,500 men each, in four or five 'banderas', were established. These were predominantly of pikemen and arquebusiers, but included a few halberdiers and up to perhaps 20 per cent sword-and-buckler men.

The infantry still wore close fitting hose from the waist down, often with calf-high Moorish boots of red Morocco leather; a tunic with a very wide and long skirt might also be worn. Even an arquebusier could wear a plate corselet, but mail shirt, studded brigantine, or plain leather jerkin was a more usual type of protection. Nearly all seem to have had helmets, simple sallets, burgonets, or cabacete morions. Red was a popular colour, and scarlet military cloaks are mentioned. A picturesque unit in Gonzalo's army was the negro guard of the field-treasury, clad in fuschia-blue cloaks (there were field-forges, field-mills, and even travelling altars as well).

As in later years, the Spanish infantry were supplemented by mercenaries — mainly Italian skirmishers with arquebusses, and Germans with pike or arquebus. There was even a 'secret weapon', tried in 1512 — from 30 to 100 'war-carts' on two wheels, carrying two or three heavy arquebusses, and a spear and a scythe-blade projecting in front. A five-foot trail-pole behind allowed for man-power propulsion. Apparently designed to break up infantry or cavalry attacks, these early 'tanks' were presumably not successful, as they were used only once.

The Tercios

Emerging in the early 1530s, these were a new step in infantry organisation, for the Spanish or any other European army — the first large permanent infantry units, both administrative *and* tactical, with territorial titles (the earliest were 'Lombardy', 'Naples' and 'Sicily') and enduring traditions and esprit de corps — they soon acquired nicknames too, such as 'The Invincibles' and 'The Immortals'. With the earlier Corunelas, they were the ancestors of all later regiments.

They were created by amalgamating existing Corunelas in threes (it may be this which gave rise to the name 'Tercio', but it is likelier that it came from their resemblance to one of the three 'battles' of earlier armies). This gave an organisation of 12 companies of 258 men each, two being of arquebusiers only, the others of both arquebusiers and pikemen, giving a roughly 50:50 ratio of pikes to shot (rather advanced for its time).

This basic set-up seems to have lasted through the 16th Century, with only two significant changes. The first was a decrease in the proportion of pikemen, which fell to 40 per cent by the 1580s; the second, the introduction of the musket. This weapon was pioneered by the Spanish army, and seems to have appeared in the Tercios in the 1560s. At first, the proportion of musketeers in the Tercio was less than ten per cent, but by the last decade of the century, Parma's army in the Netherlands is said to have had more musketeers than arquebusiers.

In the 17th Century the proportion of pikemen fell still further, to only 30 or sometimes even 20 per cent, but the trend toward the musket, in sharp contrast with developments in other armies, appears to have been somewhat reversed, the proportion of musketeers sometimes being as low as ten per cent, and not over 33⅓ per cent. It may be presumed that this was connected with the greater handiness of the lighter weapon. In any case, the proportions were always variable, as were company strengths.

The 17th Century saw a reduction in company size (in the 16th Century the average size was probably about 150) and an increase in number of companies, this being set at 15 to 20 in 1603, and officially fixed at 15 by an ordinance of 1632, which also abolished the arquebus-only companies. Actual strength

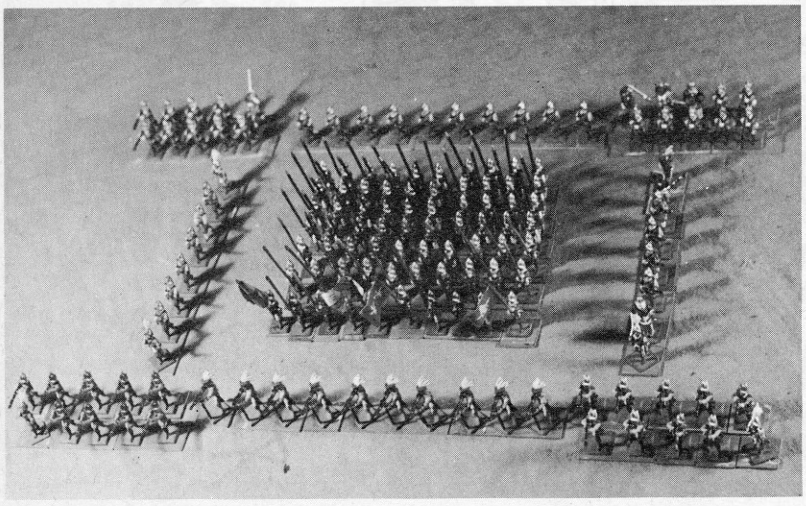


Spanish officer of the later 16th Century, probably around 1580.





f *Guard halberdier, second half of the 16th Century. Colours probably red and yellow.* **g** *Arquebusier of a Tercio, 1534. He wears an ornate morion, 'gola de mala' (mail cape) and short, baggy leather jerkin.* **h** *Musketeer, 1581. The velvet cap would later probably be replaced by a 'bowler' or felt hat. Later musketeers would also wear a bandolier. Note heavily tasselled flask, sash and musket rest.* **i** *Officer, 1581, wearing corselet with embroidered cloth covering, velvet bag-type hat with narrow brim, stuffed and slashed breeches, and sash.* **j** *Arquebusier, 1551, wearing tunic over mail shirt, sash and ornate burgonet.* **k** *Arquebusier, 1551, with flat plumed cap with narrow brim, slashed tunic (probably leather) and slashed and embroidered breeches. Note manner of sword suspension, also shown in other drawings, and alternative cap which would be worn by some Spanish/Imperial arquebusiers a little earlier.* **m** *Trumpeter, 1525. Breeches red slashed yellow. Upper sleeves yellow slashed red, lower sleeves and hose yellow. Buckskin jacket. Blue saddle, edged gold. White felt hat, probably with red plume.* **n** *Genitor, 1509. Shield is roughly heart-shaped, with slight 'V' when seen from above, and is white with a red line about three inches in from the edge. Steel cap black, brigantine red, plume red or pink. Note elbow and knee armour.* **o** *Caballo Coraza, early 17th Century. Corselet and morion steel, sleeves yellow, shoulder pads red and yellow, breeches red and yellow. Boots, bandolier, gauntlets and harness (the only horse trapping is a plain breast strap) all brown leather.* **p** *Herreruelo, 1560. Leg and arm armour and corselet polished steel. Breeches black with red stripes. Cloak black, lined red. 'Bowler' hat black with red ribbon and many holes, showing red lining.* **q** *Mounted arquebusier, 1630s. Jacket yellow. Shoulder pads, undersleeves and cross red. Breeches blue with red stripes. Hose yellow and boots black. Note hanging sleeves.* **r** *and* **t** *Escopetero, 1508, and Caballo Ligero, 1493. 'r' has a black saddle edged red and red and yellow slashed breeches. 't' has brown trousers and a red corselet cover. Both wear steel armour and have leather horse trappings.* **s** *Man-at-arms, 1560. Yellow breeches, purple cassock with red lining, cross and helmet plume. Pennon red over yellow.* **u** *Horse trappings of Old Guard of Castile, 1490s. Lion red on white (arms of Leon); castle yellow on red (arms of Castile). They are reversed on the opposite side.* **v** *Standard bearer, 1525. Saddle, harness and tassels red. Saddle edged silver. Saddle cloth edged gold. Armour and scales, covering rear of horse only, polished steel. Plumes (from front) yellow-red-white. Standard white, with gold crucifix and red cross.*



A wargames Tercio based on a ratio whereby one figure represents 20 real men in battle formation of the mid-16th Century. Figures are Miniature Figurines from the collections of the author and Graham Charles.


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probably fell; throughout our period the realities corresponded only very roughly with the 'paper' strength and organisation, Tercios of the 16th Century averaging closer to 1,500 than 3,000 men.

A Tercio was commanded by a Maestre de Campo, assisted by a 'Sargente Mayor' and a small staff including a doctor, a Drum Major (i/c Signals), a chaplain, and an honour guard of eight halberdiers (there may well have been a few halberdiers and sword-and-buckler men included among the Tercio pikemen as well, but they would not have formed over about five or ten per cent of the pikes). Each company had four officers and NCOs, including a standard-bearer, plus a chaplain, a drummer and a fifer.

The photograph posed with model soldiers shows a typical early Tercio formation; the pikemen are massed centrally in a solid square (derived from the Swiss); there are four 'mangas' (sleeves) of shot at the corners, linked by a thin screen on each face of the square, provided by the arquebus companies.

A rather clumsy formation, wasteful of manpower, it was nonetheless used until well into the 17th Century with considerable success, though in later years the mangas became broader and stronger, and the shot at the rear were omitted; one advantage over linear formations was its aptitude for all-round defence should a flank be turned. However, it did prevent the full use of fire-power in one direction, and in the 17th Century Tercios did employ semi-line formations (though nine to 12 ranks deep) on occasion. The contemporary diagrams show some of the variations possible in battle and on the march.

The number of Tercios increased over the period, the Walloon and Burgundian troops being formed into Tercios around the end of the 16th Century; later ones included 'Portugal', 'Liege', 'Brabant', 'Flanders', 'Malaga', 'Sardinia' and 'Armada' (Marines), but there remained many troops, especially non-Spanish ones, whose Banderas were not organised into Tercios. These were usually formed into Colunelas or Regiments of varying size; one of Germans in 1536 was no less than 8,800 strong (20 bands)! This was exceptional, however; most had five to ten banderas, with a similar combination of arms to that of a Tercio.

Infantry dress

That for the beginning of the period has already been described; style throughout was fairly uniform, following, or even setting, civilian fashion, the troops generally distinguishing themselves by richer dress — silver trimming was common. In the mid to late 16th Century short stuffed breeches were worn, doublets could also be padded; coats with hanging sleeves were often worn. Spanish and Burgundian troops were particularly characterised by the stiff white neck-ruff, which they wore longer than others, into the 17th Century. Longer, baggy breeches then became usual, often with red stockings; by mid-century the usual dress for an infantryman was a black felt hat with a kerchief round it, white linen shirt, dark brown doublet and breeches and a buff coat. There was, however, no uniform properly so-called before the later 17th Century — a document of 1610, indeed, remarks 'Never was there a strict ruling on the costume and armament of the Spanish infantry, for it was this that raised the morale and dash that must possess the men of war'.

The national distinguishing mark (shared with Imperial troops) was, first, the red cross (X), on back and breast, later, the red sash worn by officers, pikes and cavalry.

Musicians were more ornately dressed, and in the 16th Century wore small round caps and heavily-slashed clothing; by the mid-17th Century they had coat trim diagonally striped in the Hapsburg red and white. Officers sometimes carried gilt partisans or halberds, and had a shield carried before them by a page, even in battle.

After the early 16th Century, only pikemen, halberdiers, sword-and-buckler men and officers were likely to wear plate armour — a corselet, often with gorget and armour for the shoulders, arms and thighs (at least half the Spanish pikemen were armoured). Armour could be blackened, but that of Alva's army (1567) is said to have been richly decorated

Spanish drummer and fifer of the late 16th Century — probably 1580s.

Spanish standard bearer, circa 1580.



and gilded. 16th Century arquebusiers often wore mail shirts or leather jerkins for protection; 16th Century musketeers, encumbered with their heavy weapon, its stand, bandolier, etc, wore no protection and usually affected a felt hat rather than the burgonets, morions, or caps of the other infantry.

The cavalry

As already mentioned, the Spanish 'knights', like the Spanish infantry, were reorganised by Ferdinand and Isabella, becoming semi-regular, on the pattern of French and Burgundian 'Bandes d'Ordonnance'. Their Catholic Majesties also somewhat lightened the man-at-arms' full armour, and introduced a rather handier 'lanza d'Armas' in place of the very heavy medieval 'Lanzon'. They are also said to have abolished horse-armour, but some Spanish cavalry certainly retained this considerably later.

In 1493 the 'Old Guard of Castile' was created, originally 2,000 strong, in 25 companies of 80 men-at-arms, each having 20 light 'Ginetes' (Genitors) attached. Each man-at-arms had two horses and a page who rode his 'turnabout' horse and carried his lance. The 'Old Guard' (who survived in reduced form to the 17th Century) wore 'alwhyt' armour (uncovered, polished steel) with red plumes and the horse-trappings illustrated.

As well as the men-at-arms in Royal service, there were also the lances of the Military Orders, Grandees, Nobles, Prelates and of the wealthier inhabitants of Andalusia and Murcia. The Grandees and Nobles raised about 1,800 horse in the 1530s and 40s, of whom only a quarter were actually men-at-arms; the 'Cavalry of Distinction' of Andalusia and Murcia may have reached 6,000, but only a small proportion of these would be men-at-arms, and most of these cavalry were of rather dubious quality in training and equipment. Many served only in Spain.

From 1519, Spain had also the Bandes d'Ordonnance of the Low Countries, some 3,000 excellent Burgundian 'lances' in squadrons of 20.

During the Italian Wars, the Spanish also used a fair number of well-equipped but not over-enthusiastic Italian lances (Italian lances of the time including at least four men, one or two being non-combatant).

Spain always had some difficulty in maintaining many well-equipped men-at-arms; by 1505 there were actually only nine companies, totalling 1,050, and, though Philip II raised the total to 17 companies, these were reduced in 1560 to 50 each. The standard of their mounts and armour is said to have been below that of other nations, and in the later 16th Century they did not usually form more than about ten per cent of the usual cavalry

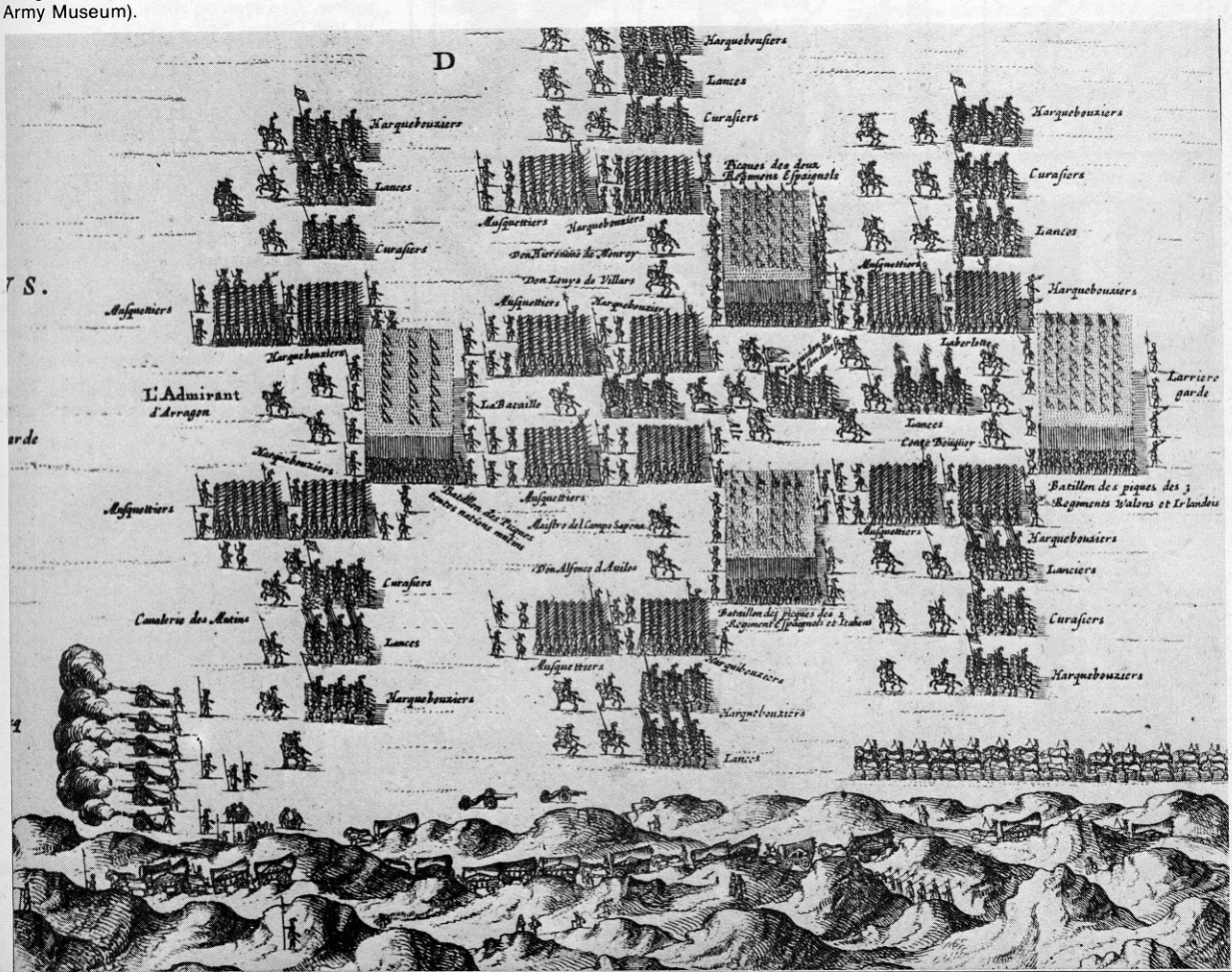


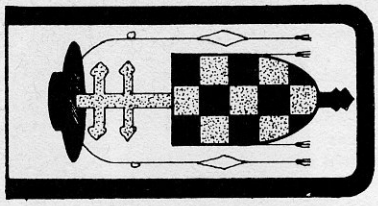
Sallet — typical Spanish helmet of late 15th and early 16th Century (Tower of London).

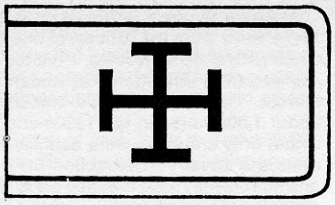


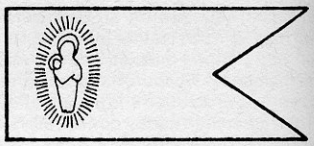
Cabecete morion — another typical Spanish helmet (Tower of London).

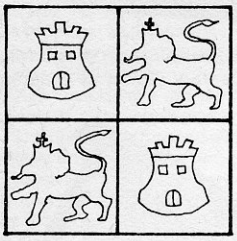
The Spanish army in order of battle, at Nieuport in 1600. Note large pike blocks (one made from two *Tercios); various types of cavalry; and massive gun teams and limbers in the foreground. (The Spanish in the Netherlands were the first to use artillery limbers.)* (National Army Museum).

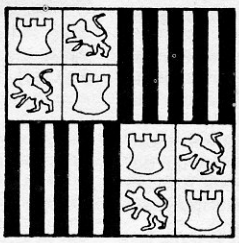


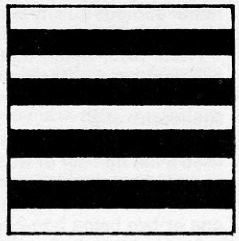


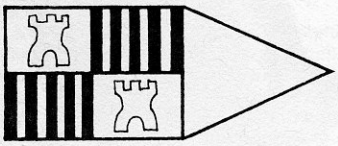


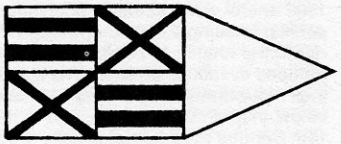


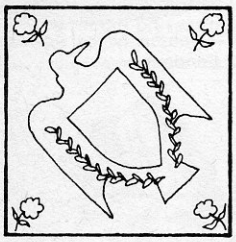


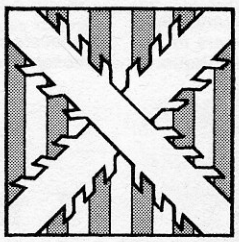


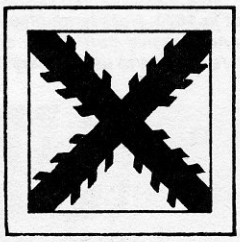


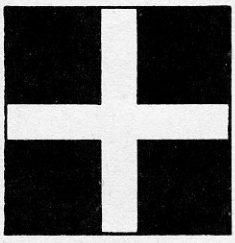




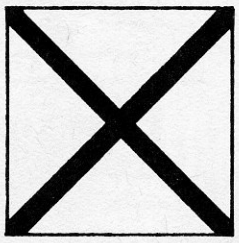






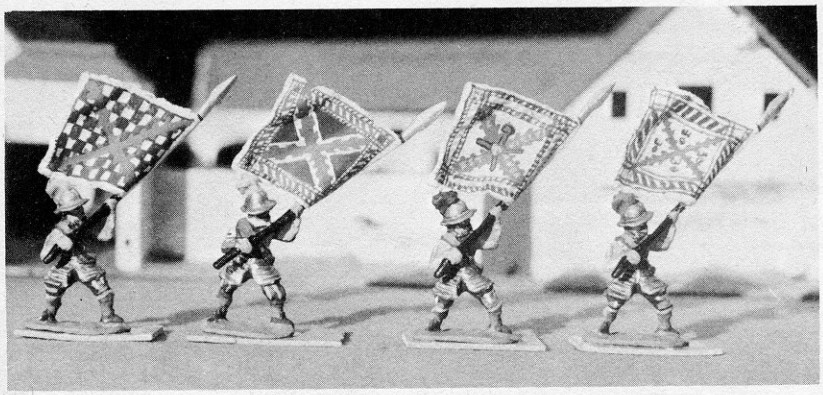


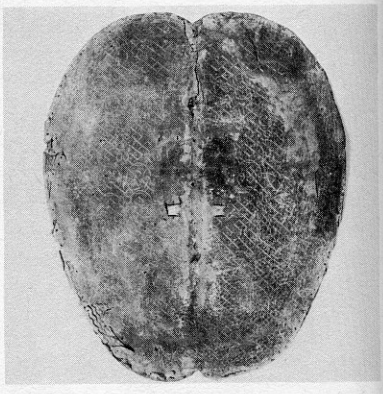




a *Cardinal Ximenes' flag, carried at the taking of Oran, which he led. White flag, dark shading, lines and tassels, Cardinal's hat red; light shading gold.* **b** *Also 1509. Red cross and border on white.* **c** *Cavalry flag, about 1600, showing the Virgin Mary. One possibility for this is a red flag and figure with gold rays.* **d** *The old 'national' flag. Likely to be carried by Spanish in early 16th Century. Yellow castle on red (Castile), red lion on white (Leon).* **e** *Carried by pikes at Pavia, 1525. Quarters as 'd' alternating with (probably) the four red pales on yellow of Aragon — which could also be carried on its own.* **f** *Catalonia. Four red bars on yellow.* **g** *Men-at-arms flag at Pavia. Probably yellow castles on red quartered with four red pales on yellow, tail of flag white.* **h** *Cavalry flag at Pavia. Probably red crosses on white, and either red on white or red on yellow stripes; tail white.* **i** *Mounted standard, 1503. Green flag, black eagle, rest gold.* **j** *Red cross raguly, green and white stripes: late 16th or early 17th Century.* **k** *Cavalry flag, probably 17th Century. Colours include red on white, gold on red or white on gold.* **l** *Yellow cross on red. 1588. Used on ships, but I am not sure about land forces.* **m** *16th Century, red on yellow. Also seen on ships.* **n** *Simplest form of 16th Century flag — red on white.*

Below left *Spanish flags. One at left has a white outer edge and background with red cross and green checks. Second left is a red cross on a white background. The dark triangles are green. Border is red with small diagonals and squares in corners green. The third flag is white with a red cross raguly carrying the motto 'Non Minor Est Virtus' in white. The smaller cross is red with a red, green and yellow shield in the centre. The border is green with yellow diagonal dashes. The flag on the right is a red cross on a white background, all other detail green.*





Spanish Genitor shield showing the heart shape derived from Moorish shields (Tower of London).

force. By that period they had lost horse armour but retained heavy full or three-quarter armour, heavy lance and mace, and still required two horses. In the 17th Century — officially from 1633 — the men-at-arms lost their lances, their armour was reduced to morion and cuirasse, and they were armed with pistols and sword. In their new guise they were known as 'Caballos Corazas'

Lancers

Up to 1512, most Spanish lighter cavalry were incorporated in the 'lances' of the men-at-arms; they would have operated separately, and thereafter were *organised* separately, normally in 'cornets' of 100 (up to 500 for a general's cornet), which could be grouped in provisional 'Trozos' of 300 to 600, or in 'Tercios' of 500 or more; these again could be grouped in regiments or brigades. Cornets, of lancers and arquebusiers at least, were recognisable by a cassock of unit colour, worn over armour.

The lighter cavalry who tended to replace the men-at-arms were the lancers. Found in other armies (English demi-lances, for example) they were particularly characteristic of the Spanish, and continued to carry their lances through the first half of the 17th Century (though the lance itself became lighter).

They wore three-quarter armour, open helmets, and rode unarmoured horses, and by the mid-16th Century carried a pistol in place of the man-at-arms' mace.

Ginetes

These were the typical Spanish light cavalry of the 15th and early 16th Century. Dashing skirmishers, they carried the heart-shaped Moorish leather-covered shield, and used Moorish tactics — feigned retreats and so on. Gonzalo de Cordoba's army in 1495 had 500 genitors to a mere 100 men-at-arms. They could carry crossbows, but their chief weapons were sword and javelin. Some had plate armour, but most had mail shirt or brigantine, steel cap or morion, and odd bits of arm or leg armour.

Stradiots and Italians

Stradiots (described in Chapter 7) were first hired by the Spanish in 1507, and later considerable numbers of Italian light cavalry were also hired, at first with the crossbow, later with the arquebus.

Archers

There were mounted archers in the Burgundian Compagnies d'Ordonnance and in 1502 a force of 'Archers of Burgundy' was incorporated into the Spanish cavalry, as, apparently, a kind of Royal Bodyguard. They wore a plumed open-face burgonet, mail shirt, and some arm and leg armour, with a white surcoat bearing the red cross of Burgundy on front and back. They still, according to Soto, were armed as under Charles the Bold, with bow and two-handed sword (the latter being carried in a bowcase-cum-quiver on the right of the saddle), but the fact that the forequarters of their mounts were protected by a 'clibano' decorated with the royal monogram might indicate that they were cavalry rather than mounted infantry, and one might suspect that a lance would also be carried.

Firearm cavalry

Firearm cavalry or 'escopeteros' appeared early in the Spanish army, and were first organised into separate bodies in the very early 16th Century.

The two chief types of the 16th Century were the 'Herreruelos' and the 'Herguletiers' (mounted arquebusiers). From the later Italian wars, they replaced the Ginetes.

The Herreruelos were armed with pistols and fairly heavily armoured, corresponding to the hired German Reiters and other cuirassier types, while the arquebusiers were lighter, only about half of them wearing corselets, the rest leather, and were armed with a longer-range weapon. They also operated on foot as well as mounted. Mounted, both could play a similar role, operating on the front or flanks of men-at-arms or lancers, preparing and supporting attacks with their fire, but the herreruelos would be more likely to charge in themselves. Both types carried swords, and arquebusiers sometimes carried a pistol as well as the arquebus (while in the 17th Century both Cuirassiers and Caballos Corazas could have arquebusses or carbines).

Dragoons first appeared in Spanish ranks in the 1630s, and tended to replace mounted arquebusiers in the 1640s and later. They were similarly armed but carried, beside sword and arquebus, a mace and a small pick which could be used to tether the horse while the rider operated dismounted. Their advantage as in other armies was cheapness; being mounted infantry rather than cavalry capable of acting dismounted, they could be worse-mounted than arquebusiers and required no armour. The early dragoons had a white slouch hat with a red feather, buff coat, calfskin gauntlets and boots, and breeches decorated with red slashes and piping.

Numbers

It is hard to fix the relative proportions of these cavalry types. Sir Roger Williams, referring to the second half of the 16th Century, says there were five lancer cornets to every one of herguletiers, but Spanish writers of similar but slightly later date suggest 25 per cent lancers, 25 to 30 per cent arquebusiers, and most of the rest cuirassiers, probably including both herreruelos and the German pistoleers hired in large numbers. The Spanish did not consider Germans very highly, but their horse were cheap and plentiful, and often formed from 25 to 40 per cent of the Spanish cavalry from Charles V's times on. Indeed, one should remember that a large part of any Spanish army was usually non-Spanish — in 1588 the Duke of Parma's army of 60,000 men had only 18 per cent Spaniards, whereas Germans and Walloons, in their own units, made up about a third of the army each! 12 per cent were Italian, other nationalities the remaining five per cent.

It is usually said, following Oman, that cavalry were a small proportion of Spanish armies. Certainly the infantry were the chief strength, and the observation may be true of the early Italian wars, but later the cavalry seem usually to have formed from a quarter to a third of the army — as strong a proportion as that of other nations.

Flags

Most infantry flags, and many cavalry ones, would be based upon the red cross of Burgundy, at least from 1519 on. It could be on a plain white background, or a chequered or striped one of green, black or blue and white, or be more elaborate like some of those illustrated. During the union with the Empire, Imperial eagles, sometimes bearing the arms of the Spanish provinces, could also appear, and the red-white-red horizontal stripes of the Hapsburgs are also likely. Religious subjects were also very usual, such as: red, with the Virgin in Glory in gold; blue, with the Virgin in Glory, moon, and stars, and the inscriptions 'Ave Gratia Plena', 'Stella Maris' and 'Pulcher ut Luna'; or: Virgin on one side, Christ crucified on the other.

Commanders in chief had their own standards of guidon shape carried with them. That used by Don John of Austria in the Netherlands bore a crucifix, and the motto: 'In hoc Signo Vici Turcos, In Hoc Haereticos Vincam'.

Infantry had the usual large square flags, lancers often long swallow-tail banners, other cavalry small square flags.

13

The French

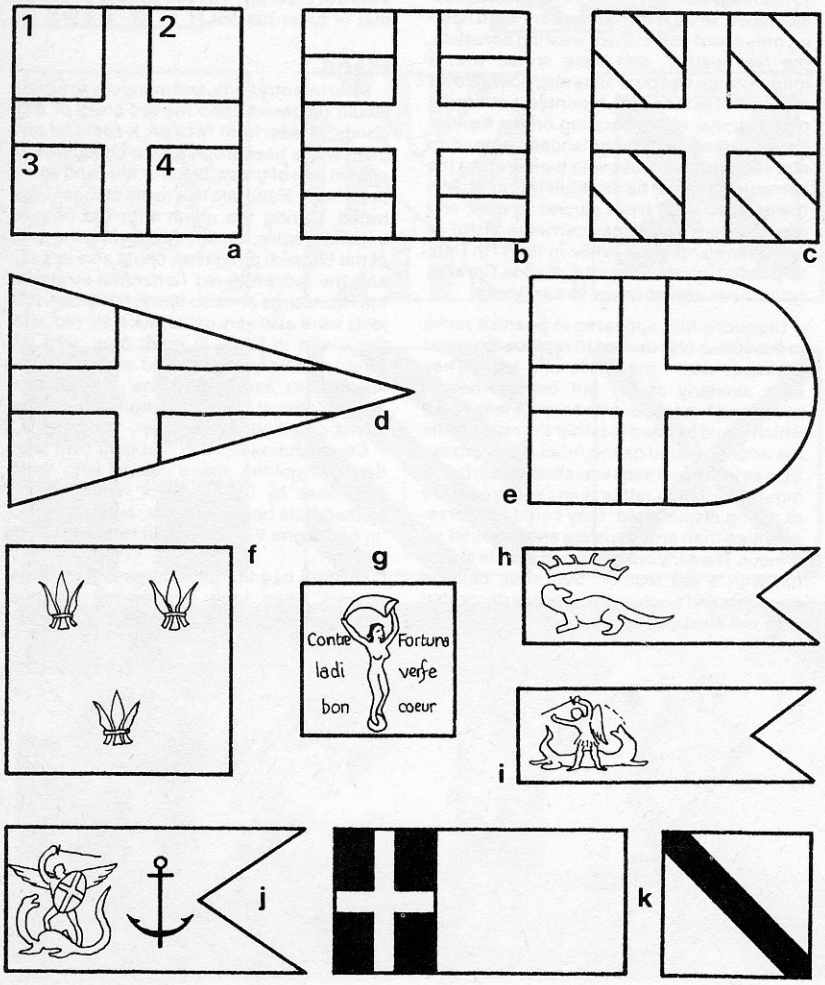
The French may be said to have introduced the new era of warfare with Charles VIII's invasion of Italy in 1494, and until 1559 their struggles with the Hapsburgs dominated the military history of Europe.

In the second half of the 16th Century, French arms were turned against each other in the religious wars of Catholic and Protestant Huguenot, but in the 17th Century, with the new Bourbon dynasty upon the throne, France emerged with reorganised forces and began to climb back toward dominance of European affairs.

The Italian Wars

Cavalry

In some ways still resembled that of Agincourt: the fully-armoured man-at-arms (gendarme) was still the pride and chief striking-power of France's forces. Like other such troops, the French gendarmes charged, in single rank (en haye) with the heavy medieval lance, backed up with mace and sword in melée, but they were more overwhelmingly aristocratic than those of other nations (even in the 1580s, when many persons 'of vile condition' had joined their ranks, over 60 per cent of them were still gentry). This probably gave them extra élan, but made them harder to control. (La Noue, in the 1580s suggested that their single rank formation was dictated by the refusal of any true gentleman to serve anywhere but in the front rank!). Their



French flags. **a** *The standard pattern. (Numbers on 'a' refer to list of infantry standards in text.) White cross of France. Background variable, in Italian Wars often red, but could also be striped as in 'b' and 'c', or carried in alternative shapes as 'd' and 'e'. Flag and cross often edged in gold.* **f** *Royal Standard. Gold fleur-de-lys on blue background until Henry IV's reign, then and afterwards white.* **g** *Cavalry flag, 1643. Many had devices and slogans like this, but could also be a small square version of 'a'.* **h** *and* **i** *Banners of Francis I's gendarmes (probably Royal Guard). Red or red and yellow with gold salamander ('h'), St Michael and dragon ('i').* **j** *Catholic flag of the Wars of Religion. Background green with black and gold St Michael, wings and cross on shield white, dragon gold, red blood, anchor silver.* **k** *Infantry (left) and cavalry flags, also from the Wars of Religion.* **l** *Regiment of Navarre: russet ground. The gold discs and fleur-de-lys on the white cross presumably reflect its original guard status.* **m** *Regiment Soissonois: cross white, quarters red and black.* **n** *Variation on 'e': infantry, early 16th Century. Flag red, cross white, centre shield blue, all edged in gold.* **o** *Cavalry flag of Charles VIII. Green with white cross. Edge and fleur-de-lys gold.* **p** *Flag of Louis XII's time, stripes red, yellow, blue, red (colours of Francois d'Angoulême, heir to throne).* **q** *Flag of similar period. Cross white, stripes (from top) red, yellow, red, yellow (Louis XII's colours).* **r** *Red, white cross, fleur-de-lys, St Michael and Dragon gold: flag of Archers of Companies d'Ordonnance, Charles VII's reign.* **s** *Gendarmerie flag of early 16th Century: red, gold sun.* **t** *Gendarmerie flag, early 16th Century: top white, bottom red with gold St Michael and crowns.* **u** *Guard Gendarmerie of Louis XII: top yellow, bottom red. Porcupine, base it is standing on, and 'sparks' all gilt.*

appearance emphasised their status: masses of multi-coloured plumes, richly-embroidered velvet coats worn over armour, horse-armours of mail or plate (officially reduced to frontal armour only in 1534) covered with a bard often in the colours of the captain of the company. Their furious gallantry, and the French tactic of hurling in many companies together, came as a shock to the similarly-armed Italians, and won many battles of this period.

The Ban and Arriere-Ban, strictly feudal cavalry, were used mainly in time of emergency (up to the early 17th Century), while the main strength of the Gendarmerie were the Compagnies d'Ordonnance, paid and semi-regular, though still gentry. They originally comprised 15 Compagnies each of 100 'lances'. A lance contained, beside a Gendarme, two archers (really heavy cavalrymen, later referred to as Chevaux-legers, with at least half-armour, mail sleeves, light lance, and unarmoured horse, they may still have had a bow for dismounted use in the 1490s, later carried a pistol), a coutillier ('finished-off' enemy unhorsed!) valet, and page. Of these only the archers were combatants, possibly originally supporting the gendarmes in second and third rank, later usually formed on their own.

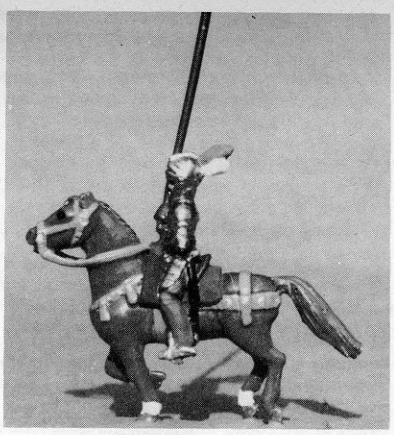
Their proportion compared with the Gendarmerie was reduced to 3:2 in 1534 and probably later to 1:1. Gendarme companies fell to a usual strength of 50 by the mid-16th Century, but tactical units usually seem to have been about 400 strong. Additional gendarmes were provided by the Royal Guard (usually 100 Scots, 100 French, with 400 'Archers', 100 of them Scots too) and by the companies of princes or great nobles, often over-strength.

In the Italian Wars, Italian gendarmes and mounted crossbowmen or later arquebusiers, fought alongside the French, who also hired some thousands of Stradiots and introduced 'Argoulets' in imitation of them: wearing cabacete morion, light cuirasse and mail sleeves, they were armed with crossbow — later arquebus — mace and sword. From 1529, arquebusiers à cheval were attached to support the Gendarme companies. In the earlier Italian wars — and the Wars of Religion — one third or more of a French army could be cavalry.

Infantry

The native French infantry, in contrast to the cavalry, were considered unfit to take the brunt of the infantry battle. In the 15th Century a militia of 16,000 'Francs-Archers' had been set up, and some thousands of these were employed in the earlier Italian Wars period, but proved highly unreliable, being abolished in 1535. They were variously armed and probably still included some longbowmen at the end of the 15th Century. The greater part of the French infantry however, were mercenary bands of 'aventuriers', some of them, like the 'Vielles Bandes de Piedmont' so constantly employed as to become virtually regulars. Gascons, who were considered (particularly in their own eyes) the best soldiers in France, predominated.

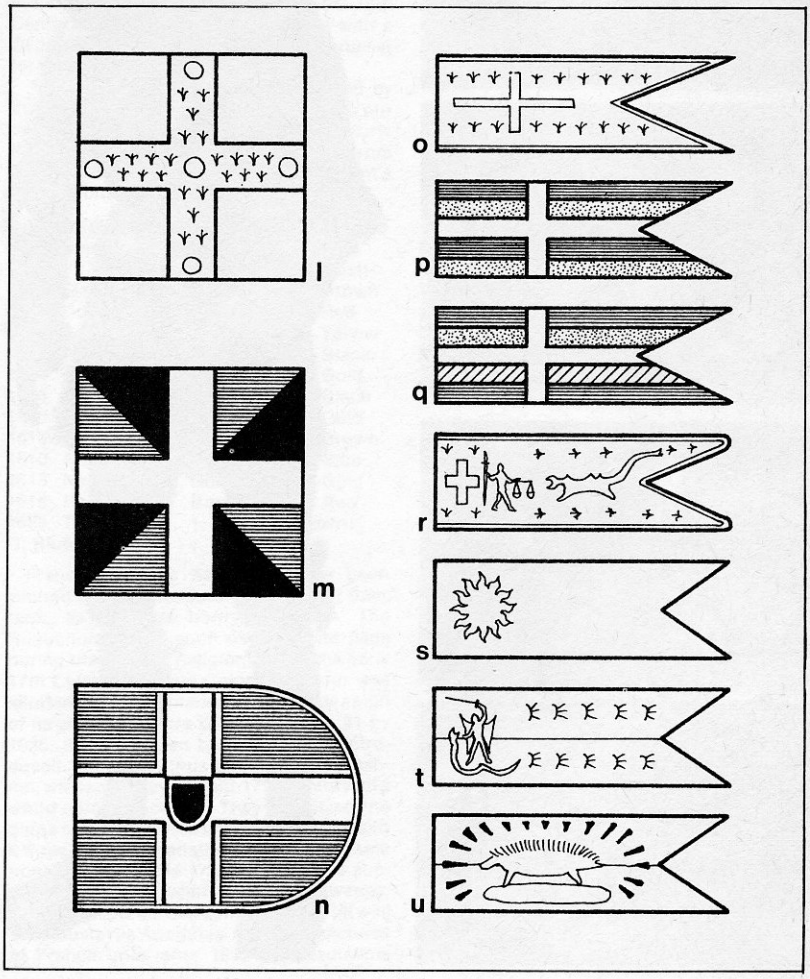
The chief weapon of the infantry was the crossbow, not replaced by the arquebus until



Lancer from Miniature Figurines' 'R' range suitable for Wars of Religion gendarme.



French musketeer circa 1585. Hat black, ruff white, bandolier blue, upper sleeves red and white, lower orange and white. Breeches orange with gold trim, stockings blue. Possibly has sleeveless leather jacket.



the 1520s, but there were also pikemen, for the French foot in the early Italian Wars emulated the tactics of the Swiss (who were called in to train them at times) 'with the same discipline and method, though not with the same courage'. Infantry bands or 'ensigns' were 500 strong for Francs-Archers, otherwise 230-300 men.

50 per cent or more of the infantry of French armies, however, was normally mercenary; predominantly Swiss (exclusively in French service after 1516), otherwise Lansknechts, both at this period around 65 per cent pikemen, 25 per cent halberdiers and the like, ten per cent arquebusiers. There were also Italians, mainly skirmishers.

A new attempt at a French national infantry was made in 1531, when Francis I founded the 6,000 man 'legions' of Normandy, Languedoc, Champagne and Picardy. As with the Compagnies d'Ordonnance, only a cadre was permanently embodied, the rest mustering only occasionally in peace. Composition varied but was around 60 per cent pikemen, in burgonet, corselet and tassets, ten per cent halberdiers and 30 per cent shot, in morions. Though of dubious value, they were maintained or revived until the wars of religion, two or three more being added. Bands of around 1,000 were sometimes detached for separate service.

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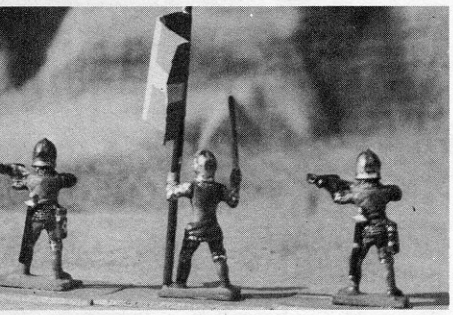
Italian Wars crossbowmen from Miniature Figurines' 100 Years' War range.

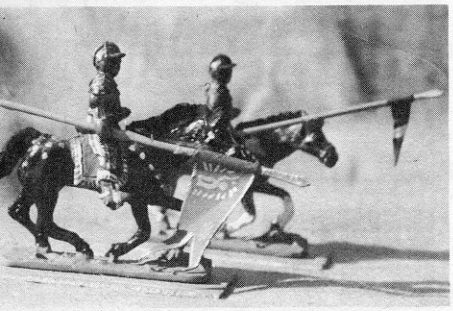
Warrior 'lobsters' used as late 16th Century French gendarmes.

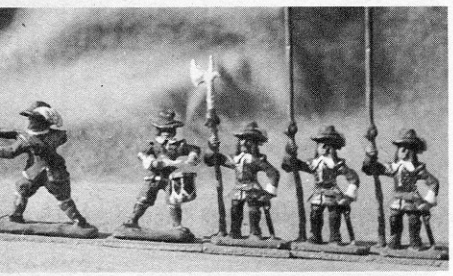
Some Warrior English Civil War figures, some of the many suitable for use as 16th Century French (French sergeants in the 17th Century carried halberds like the centre figure).

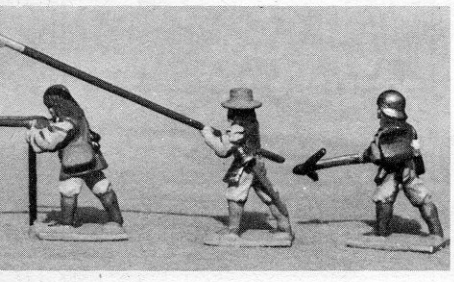
French foot figures from Miniature Figurines' 'R' range. The musketeer and pikeman are suitable for Wars of Religion of 17th Century, the heavily armed crossbowmen for late 15th or early 16th Century, although in the latter case he would probably not carry a shield.

Right *Early 16th Century armour, reputed to be that of the Chevalier Bayard; typical of early 16th Century Gendarme* (Tower of London).











Artillery

The French guns made perhaps the greatest impression in Italy; Charles VIII's 36 bronze horse-drawn pieces were the first effective field artillery. By 1536 the French artillery train of some 40 pieces had over 100 gunners, conductors and craftsmen, 800 pioneers, 680 horses and a picked escort of four ensigns of foot. Guns were generally heavy — in the 1550s cannon, culverins or culverin bastard-calibres being standardised (see Chapter 4).

The Wars of Religion

Catholics

For most of the period also the royal side, so inherited most of the existing army. Their cavalry centred on the gendarmerie using their old tactics, though with unarmoured horses, supplemented by German reiters (heavy cavalry with pistols using 'caracole' tactics based on firepower), and similar French pistoliers and mounted arquebusiers, now referred to as 'carabins'. They had the legions (except Languedoc, which mostly deserted to the Huguenots) and the much better 'Vielles Bandes' of mercenaries; from these were developing the regimental organisation which gave France her first permanent regular infantry units; by the later wars being of ten to 12 companies, and around 1,000 strong, but still often grouped on the battlefield in large 'battalions' of up to 5,000. They also had the Swiss, hired Lansknechts in large numbers, and were lent Spanish infantry. Their armies, especially the cavalry raised by nobles, were very showily dressed, with plumes, gilt armour, velvet and gold embroidered mandelions and so on.

Huguenots

For cavalry were dependent upon the 'squirearchy' of the Protestant areas, who produced a brave and Ironside-like horse, distinguished by the long-sleeved white casaques they wore over their armour in old fashioned style (their opponents nicknamed them 'Millers'). They were mostly half-armoured, and armed with sword and pistols, and though originally formed 'en haye' were taught under Henry of Navarre to form in squadrons six or seven ranks deep, charging home with the sword and using their pistols in

the ensuing melée, highly-effective tactics. Again reiters were hired, some of them adopting the new tactics, and most lighter cavalry were arquebus-armed.

Huguenot infantry, especially at the outset, were somewhat improvised, and even when their discipline improved, almost totally lacked pikes, being at first all arquebusiers, by the end of the wars nearly all musketeers. By 1587 they were taught to fire regular volleys, two ranks at a time, the front kneeling. They also had regimental organisation, but seem to have often operated in smaller tactical groups, sometimes interspersed with cavalry. They were supplemented by smallish numbers of Lansknechts, some not-very-effective English and Scots, and at the end of the wars by the Royal Swiss.

17th Century armies

Henry IV (Navarre) established the regular army in 1597 from both Catholic and Protestant troops. The French regiments, starting with 'Les Vieux' — Picardy, Champagne and Navarre, and the Garde Francais, were made permanent, and new regiments such as Piedmont, Normandy and Lorraine added; 1,200 strong, one-third muskets, two-thirds pikes. By 1609 there were 20,000 French infantry, and 12,000 foreign, mainly Swiss.

Basis of the cavalry were 4,000 regular Gendarmes, now half-armoured pistoliers, supported by sections of 'Carabins', and there was a 1,000 strong 'Cornette Blanche' of noble volunteers, a company of 200 Guard Chevaulegers, and a unit of gentlemen, the 'Carabiniers du Roy' who in 1622 became the famous company of Grey Musketeers (a company of Black Musketeers was added in 1661 — despite their name both were heavy cavalry, the colours being those of their horses).

Under Richelieu, in the 1640s, the army was further overhauled and expanded, partly by the take-over of an army of 8,000 ex-Swedish troops previously led by Bernard of Saxe-Weimar (foreigners were reckoned worth three men — one more for France, one less for the enemy, and one Frenchman released for productive work!). Infantry began to operate in small battalions of 600 to 800, usually formed six deep, pikes (now perhaps as few as one third) in the centre (regiments could form half, one or two battalions).

Cavalry companies and cornets began to be grouped in regiments, but fought in 'squadrons' of about 200. By 1660 there were 109 infantry regiments (30 foreign, mainly Scots and Swiss) and 30 cavalry regiments. Most cavalry were three-quarter or half-armoured pistoliers; there was at least one buff-coated dragoon regiment, and there were some irregular light cavalry or 'Croats'.

The French did not adopt uniform until well into the later 17th Century, though some companies and perhaps regiments had distinctive coat colours; light grey was common, but red and blue were also worn (the latter by the Gardes Francaises). 17th Century French seem to have been distinguished by an addiction to frills, bows, ribbons and plumes, suitable to the future leaders of European fashion. In the Guards, the Scots archers in 1494 wore red, white and green striped sleeveless jacket with white and yellow collar, later usually white, trimmed with silver. Guard Gendarmes probably had red coats.

Many Guard troops would wear the Royal badge on back and breast — for example: Louis XII — a crowned porcupine; Francis I — a crowned salamander; Henry II — a crowned 'H' with a silver crescent below; and Henry IV — a club of Hercules, wrapped in a streamer bearing his motto 'Haec Quoque Cognita Monstra'. National signs were, in the 16th Century, a white cross on back and breast, in the 17th Century a white sash.

For information on the Swiss Guard, see Chapter 6.

Flags

As shown, the French flags of the 15th and early 16th Centuries were predominantly red with a white cross, though blue and striped backgrounds were also used; the rounded form shown appears to have been commonest in the Italian Wars period.

From this was derived the standard form of French infantry flag in the 17th Century (and later), consisting of a large square standard with white cross and varying backgrounds. For the original French regiments, the background colours were: Gardes Francaises — blue; Picardy — scarlet; Piedmont — black; — Champagne — green (at least in the 18th Century, this was the only regiment with a *diagonal* white cross); and Navarre — russet (originally Henry IV's Guards).

The following are the colours carried by those French regiments founded during our period, as they were in the mid-18th Century; they were almost certainly those carried from their foundation. Date is that of Regiment's foundation:

Date	Regiment	1 and 4	2 and 3
1595	Soissonois	(See illus)	(See illust)
1597	Flandre	Gold	Brown
1584	Bourbonnois	Purple	Red
1595	Bearn	Purple	Yellow
1604	Aquitaine	Red	Black
1604	d'Eu	Red	Gold
1606	Auvergne	Brown	Black
1610	Aunis	Green	Gold
1610	Guienne	Red	Brown
1610	Artois	Gold	Blue
1615	Normandie	Gold	Gold
1616	Poitou	Brown	Red
1625	Touraine	1: Gold, 2: Brown, 3: Blue, 4: Red	

French Colonels had sometimes been allotted a white standard as a mark of their rank, as early as Henry II's reign. The Huguenots made much use of white flags during the Wars of Religion, and in the early 17th Century, a white Colonel's colour was allotted to each *permanent* regiment as a sign of its status. 12 were carried in 1616, 21 by 1635, the year when battalions were introduced. The French thus probably set the fashion, widespread by the mid-17th Century, of a white colonel's colour. They also fixed the quota of flags for each battalion at three, and a three-flag-to-a-battalion ratio also became popular later in the 17th Century. It is supposed to have been derived from the Swedes, but they in fact carried company flags till well after Gustavus Adolphus' time, and pictures of French units after 1635 also sometime show more than three flags, so it would appear that it was a rule not always kept.

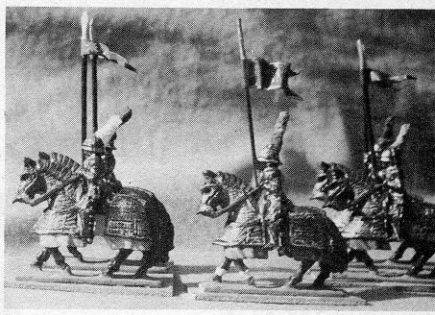
The other 'standard' devices on French standards were St Michael (usually shown as a winged, armoured figure slaying a dragon)

Top to bottom

Miniature Figurines' 'Gothic Knights' from the 100 Years' War range used as Italian Wars gendarmerie with added lances and plumes.

Arquebusiers à cheval of late 16th or early 17th Century. Right-hand figure is Warrior dragoon (flag added), centre and left are Miniature Figurines' old *'R' range.*

Battle of Dreux, 1562, showing mounted French arquebusiers and infantry, with Lansknechts in 'pluderhosen' on right.







and the sun (surrounded by varying numbers of pointed rays and displaying a smiling face). These were particularly used on cavalry standards and by Guards units. Thus, Charles VIII's Scots guards had a red, green and white flag with both devices in gold, the sun's rays covering the whole field; some of Louis XII's guards had a red and yellow flag with the saint (the field charged with porcupines, the King's badge). Other Guards flags varied, however: Henry II's Guards had white flags with a silver crescent and the motto 'Donec Totum Compleat Orbum', and under Louis XIII the Scots company of the Garde du Corps had a white standard with a greyhound running on a field surrounded by trees and the motto 'In Omni Modo Fidelis' (other companies may have had the same design on different coloured fields).

French dragoons, like those of other nations, carried swallow-tailed guidons; in the 18th Century, that of the Royal Dragoons, the only dragoon regiment founded before 1660, was blue, sprinkled with gold fleur de lys and with a gold sun with 12 pointed rays in the centre; fringe was gold and white.

The square cavalry flags of the late 16th and 17th Centuries would also be fringed; apart from the devices mentioned, they could carry others common at the time, such as the 'Fortuna' shown, arms holding swords and so forth, and bore a variety of mottoes and slogans.

a *and* **b** *French musketeers circa 1640; note short sabre carried by 'a'.* **c** *Scots Guard archer of Francis I's reign showing the type of dress and armament used on dismounted guard duty at court.* **d** *French musketeer, mid-17th Century. Hat grey or black with gilt trim and red plumes. Tabard or casaque blue, cross and edge white, 'flames' in angles of cross red for Grey Musketeers, yellow for Black. Jacket and breeches blue, trimmed gold. Boots black with red heels. Sword probably slung from embroidered shoulder belt. Cuirass under casaque.* **e** *French pikeman circa 1640; note extremely large garters and shoe bosses.* **f** *Guard Chevauleger, early 17th Century. Armour and horse trappings black. Sash white and gold, pennon black and white, plumes white (a 17th Century gendarme would be similar except for the lance); armour to knees. Note pistol holsters at front of saddle.* **g** *French Gendarme of late 15th or early 16th Century. Horse bard is that of Francis I — probably blue and gold. The rider could wear only the 'skirt' of his coat, leaving the rest of his armour (torso and arms) fully exposed.*

