

## ARMS AND ARMOUR,

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AMONG the many and varied subjects that engage the attention of the Archæologist, few are more generally interesting and more frequently selected for research than the study of Arms. This arises from many causes. Primarily, perhaps, the most definite traces we possess of the early history of the human race are to be found in the weapons men used. From them can be gathered ideas as to their domestic life and their degree of culture, as well as their manner of fighting. For in those ancient times the history of any man was that of war against animal or human foes, and of a constant struggle for an existence that was chiefly maintained by the chase. Man at that time was essentially a hunter, and probably cultivated nothing. What food stuffs he obtained, other than that provided by fish, flesh, or fowl, were solely those which unaided Nature had provided. Agriculture was not; and the dawn of præ-historic life can only be guessed at from the weapons, used probably for all purposes whether of peace or war, which lie in gravel beds, in caves, or in Tumuli.

Similarly the dawn of Art and Culture is indicated by improvement in the form and decoration of the Arms of Ancient Man.

The history of Arms, moreover, is the political history of the world throughout all time. The earliest known written records teem with the stories of wars. And, as the world has grown older, so have those nations which possessed a superiority in weapons, obtained a political mastery which has led to an increased development, often enough, in the arts of peace. Trade has followed the sword and led the way to emigration. The soldier has frequently been the pioneer of commerce, and has broken down the spirit of exclusion and seclusion which is hostile to commercial enterprise. The appeal to force, or at least the inclination for it, is strong within every breast; and those nations which have not hesitated to use it have been in every age the most advanced in civilization and in culture. The stout spirit that fears not to face a foe, is of the same stamp as the keen energetic intellect that sees no bar to its mental grasp, and no bounds to its intellectual ambition.

To write the history of Arms, then, is to write the history of the world. So vast a subject can be but most briefly touched on in the space of one paper. All that will be aimed at will be to mark the

progress of the greater changes in and the development of the different groups or classes of the Arms and Armour that have been from time to time in use.

Præ-historic man and his ways of life, forms a subject by itself; but inasmuch as he first devised the weapons from which all others have by slow degrees come, it will be necessary to begin with his horizon.

Whoever he was, he and his neighbour varying in strength must have early learnt to quarrel. The appeal to fists, as the first offensive weapon must have soon taught, in some cases, the value of the harder knuckles; in others, that of the longer arm. The former was soon equalized by striking the blow with a pointed stone held in the hand; the latter, by lengthening the striking power with a stick. When the heavy-ended stick was found to be still more effective, the idea of *making* it heavy by selecting a knotted-ended one, or by attaching the stone to a straight one, must soon have struck the warrior's mind. So, again, the active agile man finding himself unable to cope at close quarters with a heavier antagonist, must have attempted to check his forward rush and lessen his *morale*, either by throwing the stone or the stick at him, or meeting him with a long pointed one so as to keep him at arm's length.

Thus, in the ages of stone, man must have begun with fists and improved these weapons by held-stones (Pl. I., 1) and sticks, then by clubs, then by stone-headed clubs. Similarly the missiles were thrown-stones (Pl. I., 69, 70), thrown-sticks, and long held-sticks.

Later on, as art and the power of working stone increased, the stone-headed stick became the Stone Axe (Pl. I., 49, 50), the thrown-stick became the Javelin, the held-stick the Spear (Pl. I., 28, *a*). All these tipped with bone or stone became more formidable as time went on, and were the forerunners of every variety of offensive weapons but one. This, the Dagger or Sword, the close stabbing arm, which was essentially a personal weapon, had its origin in the dagger of pointed bone followed by that of chipped or polished flint (Pl. I., 2).

The childhood of a more powerful, because longer ranged, missile, also appeared at this period. The stone arrow-head (Pl. I., 71) shows that the elasticity of wood had been noticed, and that man had called in science to help him in his work. Already the missile had taken a prominent place. It had given to the defence an increased power; it could kill at distances beyond the throwing power of the human arm.

Armour was probably non-existent; certainly at first. The thickest skull or the heaviest mat of hair were the best defences man had. But doubtless in the later ages of stone the skins of beasts, both for head and body, were found to be protective, as well as conducive to warmth. Thus skin, or, in its altered form, *leather*, was the first real armour. But with the introduction of metals, the rapid expansion of variety in Arms, both as to type and character, became speedily noticeable. In early Archaic time bronze occupied the first place. Possibly hardened by phosphorous or some such substance, it combined hardness with the

capability of being readily moulded, ornamented, and worked. It was useful both for offence and defence. The Bronze dagger (Pl. I., 3), broad and leaf-shaped, was capable of deadly work in a strong hand. Longer than its forerunner of stone, it soon lengthened still more to become the Sword (Pl. I., 4). Still inferior as a cutting tool, it was a more powerful stabbing one than any that had gone before. Previous weapons of similar character had been formed throughout of the same material; being all bone, or stone, or wood, as the case may be. But Bronze man had made the further progress of often giving his personal weapon a hilt of wood or bone; by which it was not only made more pleasant and easy to hold, but could be more fully decorated. Art and Arms were twin brethren in these times.

Nevertheless, the short-hilted Sword and Dagger, meant possibly for close gripping rather than because the races who used them were especially small handed, was in itself offensive; though little guarding power was afforded by the form of the hilt itself. Assyrians, Jews, Greeks of the "Heroic Age," Egyptians, and most of the Northern peoples passed through an "Age of Bronze." Their weapons were all of the same "genus," though there were, naturally, subordinate "varieties." The general types of the other Arms remained the same. They were but improved. In addition to the sword and dagger already referred to, the Javelin, Spear or Lance (Pl. I., 28, 3), and Axe (Pl. I., 51), still represented the weapons of personal close combat, and varied little in general form. The Arrow (Pl. I., 72) was a better missile, because the bow was of better form; and being made from more carefully selected materials, such as horn, gave a greater range. Stone was still used as a light missile, but had increased range owing to the use of the sling. The same material still composed the heavier missiles, and machines to throw them began to supersede the muscular power of the man. Art and Science introduced heavy Artillery.

With more deadly Arms had come more complete Armour, though this too was of bronze. Leather for head-dresses and for body protection was probably worn by the bulk of the fighting men. But the Chiefs wore helmet (Pl. II., 80, 81), breastplate, and backpiece moulded to fit the form, and greaves to protect the legs. Whether the defensive adjunct of the shield had place before this can never be determined; but in later Bronze days when painting and sculpture flourished, we know from carvings and from figures sketched on vases that the warrior was protected by a shield. Probably of wood or wicker as a rule, for lightness, it may at times have had an outer casing of leather and sometimes of bronze. At times, however, they seemed, like the Armour, to have been entirely composed of metal; thus the shield of Ajax must have been from all accounts very heavy. But the age of Bronze was probably not of very lengthy duration. The increasing skill and intelligence of the workman soon rendered him capable of smelting and working the more intractable ores of iron.

And with the advent of Iron the real written history of Arms begins. Not that there was much change in form at first. Weapons but be-

came longer; and it was only when the character of steel became known that the use of the hard cutting edge, and the point capable of piercing the joints of such primitive Armour as existed, led to a steady and continuous improvement in the fashioning of warlike tools. In early historic time the leading nations of the world might be roughly grouped as iron users; but these had the two great general divisions of Barbarian and Roman. The former had but partially emerged from savagery. Each warrior probably still had long-ranged missile weapons, as the arrow (Pl. I., 73) or sling-stone; short-ranged ones such as the dart, javelin, or, to some extent, the axe (Pl. I., 52); and personal weapons such as the sword (Pl. I., 5), dagger, and spear (Pl. I., 29, 30). The axe as a missile, in the shape of the *Francisca* (Pl. I., 53), was used by Gaul and Frank up to the time of Charlemagne, if not later. The broad dagger, the *Scramasax* (Pl. I., 9), was as much a Saxon weapon as Archaic. Little change took place for apparently many a century among the numerous barbaric enemies of Rome. For armour, the leather coat and iron or bronze head-piece were in common use. Personally courageous they seemed to have despised body armour unless they captured it in war. The spirit of fighting for fighting's sake, and with no defence except that which the weapons themselves afforded, lived far beyond the period when the unwieldy empire of Rome was being broken up by external force. Hence the history of Roman Arms is that of a period which stands almost isolated in an age of barbarism that preceded it and overwhelmed it, and which, though somewhat modified by contact with it, lived as barbarism after it.

The Roman weapons led to the formation of a tactical system, much as modern arms modify modern systems. The light-armed legionary troops used the bow and sling to begin the combat, but it was to the legionaries themselves that the actual shock of the charge was entrusted. As before, but now carried by different persons, the thrusting spear, that formidable dart the pilum, and the short steel Gladius (Pl. I., 6), with sometimes the broad dagger called the Parazonium (Pl. I., 7), were the warrior's tools. None of these call for special comment except perhaps the pilum, the spear that Montesquieu conceives subdued the then known world. It was furnished with a broad lance-shaped head provided with a very long iron socket, so that the former could not be severed from the shaft by the cut of a sword. From its weight it was capable of being thrown only a short distance, but as a spear at close quarters it was not merely deadly, but could be used to ward off blows as well as inflict them. In some respects therefore it was the forerunner of the bayonet. Both pilum and sword were close-quarter weapons, and thus the legion itself was used as a disciplined organized column, owing its power to its union and solidity. Moving in mass against the mob of "armed men," it proved as history has since repeated, the advantages organization and cohesion have over disorganized masses.

In Body Armour, the iron or brass helmet (Pl. II., 82, 83), the leathern coat (whence eventually arose the term *cuirass*),

Iron Armour (for the body only) of plates or scales, Brass Armour over the shoulders and in broad bands around the waist and chest, showed little variety in form. All these, except of course the first mentioned, were worn over a quilted or leather under-garment. The shields, oval and convex, were of iron, bearing on them the insignia of the legion to which the soldier belonged. Apparently they were brightly burnished, and when not in use were protected by a leather cover (Pl. II., 105).

Between the downfall of the Roman Empire and the date of the Norman Conquest, the advance in the offensive and defensive armament was slow and ill-defined. The weapons remained much the same. The sword was of medium length, two-edged, broad, and pointed, with a plain cross-hilt and a large pommel (Pl. I., 8). The axe often enough was double-headed, as in the Saxon *Byl* (Pl. I., 54). The spear, javelin, and arrow showed no change. The body armour, usually of leather, with overlapping flaps fastened to it (*corietum*), was in some cases à mail formed of iron discs sewn on leather (*lorica squamata*), but it rarely reached below the waist (Pl. II., 106). The helmet was a leather cap bordered and bound with iron (Pl. II., 84); the shields large, usually circular, and of wood, but with a big round *umbo* or boss in the centre. They were painted with a white ground on which was a design in gilt or colours. Such was the military costume in the days of Saxon Harold. Their skill in the use of the shield seems to have been as extraordinary as their power of using the deadly battle-axe. The story is told of Harold that, surrounded by ten archers, he was able, with his back protected by a tree, to intercept every shaft that was aimed at him. "At one moment five of the arrows hissed through the air, and with such wonderful quickness had the shield turned to each that three fell to the ground blunted against it, and two broke on its surface." Exaggerated as this may seem, it is no more extraordinary than many a Mediæval story. But the Norman invasion was the beginning of a vast impulse in the study of arms as a profession. The stern discipline and tactical skill of the legions of Rome had found no following among the nations who destroyed her prestige and renown. Contented with destruction, they had not replaced her methods by superior ones, or adopted them to any real extent. Battles had, become and remained long after the Saxon times, but a series of partial combats between the better armed chiefs and their personal following. The mass of the ill-clad rank and file counted for little in the game of war.

During all the period that was immediately to come, military history deals chiefly with the contests of Knights and their retainers. To individual prowess was open the tournament where doughty deeds met with immediate reward and encouragement. No better school for war ever existed than that in which men learnt to fight under the personal criticism of women. Vanity, pride, love, were all brought to play in these contests, and poetry spread far and wide, through the songs of the Troubadours, the deeds of the valiant, the defeats of the weaker. The age fast became one of individual bravery. War was the only pursuit

open to men who did not care to don the cowl of the monk. War being the one pursuit of the gentle-born, a steady improvement in their armament might be expected; and furthermore, that such improvement would vary, first with the weapon, and then with the armour designed for protection against it.

As Præ-historic or Archaic time, therefore, has the three divisions of Stone, Bronze, and Iron, depending on the materials of which Arms were most commonly made, and early historic time (in Europe) naturally sub-divides into Greek, Roman, and Gaulish, so after the Conquest, Mediæval time can best be divided into classes dependent on the nature of the Armour used. Roughly speaking, then, its three periods are represented by—

- I. Mail Armour (William I. to Edward V.), to A.D. 1300.
- II. Mixed Armour (Edward V. to Henry IV.), to A.D. 1410.
- III. Plate Armour (Henry IV. to Henry VIII.), to A.D. 1590.

At this last date the influence of fire-arms was being so decidedly felt that a further phase has to be considered, viz:—

- IV. Half-Armour (Henry VIII. to George II.), A.D. to 1700.

I.—MAIL ARMOUR (A.D. 1066—1300). The general character of the Body Armour was (i.) the *Tunic*, *Haqueton*, *Gambeson*, or *Wambeys* (a quilted cotton garment, with long sleeves, and reaching to the knee, which was worn underneath the mail, though sometimes it was worn alone). (ii.) The *Hauberk* with hood or *coif* (worn over the tunic, and made of quilted cotton, on which pieces of metal were sewn). (iii.) The *Chapelle de fer* (Pl. II., 85), a conical iron helmet, with a projecting piece covering the nose, called a *nasal*; but in John's reign it lost the nasal, and was flat-topped (86). Sometimes the face was protected by iron cross bars; but whatever its detail, the *Heaulme* covered the mail coif, and often reached nearly as low as the shoulders (Pl. II., 107). At first there was no armour on hands, legs, or feet, but as time advanced the mailed suit covered all these parts. A short "Pryk" spur formed part of the Knightly dress.

The mailed hauberk had many varieties. From the Celtic, *Hearn* (Iron), and Norman, *Hernoiz*, came the English *Harness*. It was *Trelliced*, as in the *Broigne* (Pl. II., 95), when square iron plates were sewn between leather or cotton, with an iron stud in each plate; *Ringed* (96), when rings were sewn on quilted linen, side by side; *Rustred* (97), when the rings overlapped each other; and *Mascléd* (98), when the pieces of iron were diamond-shaped, pierced with holes for sewing, and touching each other. All these forms exposed the joints of the armour to the risk of penetration by the lance thrust, and hence attempts were made to afford more complete protection. So that these were followed by the *Lorica Squamata* (99), composed of overlapping circular plates, and taking its name from the leather armour of earlier times; the *Tegulated* (100), with overlapping square plates like tiles; *Jazercant d'Acier* (101), with oblong overlapping slips; *Single Mail*, with rings set edgewise; *Banded Armour*, with rings

hooked into bands of wire or leather; *Double Chain Mail* (103, 104), with interlaced rings, a form introduced from the East; and lastly, *Double Chain Mail, greaved*, when the covering, called *Chausses* and *Champons*, extended over the legs and feet.

The disadvantage of mail throughout was, that, if nothing were worn underneath it could be thrust by the lance point into the body. It often was so, through Shield and Gambeson. So that the *plastron de fer*, an iron breast-plate, was eventually worn underneath the armour, both to take its weight and gave further protection. With the introduction of this *plastron* and of *coudieres* or elbow plates, *poleyns* or knee plates, and *ailettes* or neck guards, comes the dawn of the second period. So hot and heavy had the Armour become with mail and padding, that Knights were sometimes smothered in the charge. An additional burden was sometimes carried in the shape of the sleeveless *Surcoat*, bearing the Knight's Arms and reaching to the knees; but it was not till the reign of Henry II., that these Armorial Bearings became hereditary. The shield, at first long and kite-shaped, became shorter towards the end of this period, so as to be more easily worn by the mounted Knight.

The Missile Weapons, the Cross-Bow and Long Bow were used by special bodies of footmen, though occasionally the former was carried by the cavalier. The latter was essentially of Norman introduction; they were sufficiently formidable, even against mail. The arrow (Pl. I., 74) was said to pierce the mail coat, the hip, and the horse's saddle. Those used by the Welsh could penetrate an oaken gate. On one occasion a knight, struck through one thigh and saddle, turned to hurry from the press, and was similarly wounded on the other side. Archers' wages varied from 1d. a day for a footman, 2d. for a horseman, to 6d. for a cross-bowman. No projectile was classed among the knightly weapons, except perhaps the mace (Pl. I., 57), which was sometimes thrown. Sir Walter Scott in the "Talisman" gives an instance of its employment, which, though from the pages of fiction, sufficiently explains its effect. In the contest between the Knight of the Leopard and Saladin, on the shores of the Dead Sea, "the Christian Knight, desirous to terminate this illusory warfare, in which he might at length have been worn out by the activity of his foeman, suddenly seized the mace which hung at his saddle bow, and with a strong hand and unerring aim, hurled it against the head of the Emir, for such, and not less, his enemy appeared. The Saracen was just aware of the formidable missile in time to interpose his light buckler betwixt the mace and his head; but the violence of the blow forced the buckler down on his turban, and though the defence also contributed to deaden its violence, the Saracen was beaten from his horse."

Still this was only useful at short distances, and the Knight relied rather on his long lance (with a flag, the *gonfanon*, near its point), his straight, cross-hilted, two-edged sword, and sometimes on the spiked mace, the "morning star" (Pl. I., 58), or on his battle-axe (Pl. I., 55). Later in this period, the dagger or *Anelace* was worn by the man on his right side; and a sword, the *Estoc* (Pl. I., 13), long and dagger-like,

hung at his saddle-bow. The foot-men carried sword and spear which, broadened and made fantastic in shape, became the Glaive and Gisarme, the Pole Axe and Halberd, which will be treated separately.

II.—MIXED ARMOUR, A.D. 1300—1410). As the name implies, mail was still the basis of the warlike dress; but now, instead of iron plates being used only to cover the chain mail, they in course of time replaced it.

Thus the helmet, more or less approximated to the shape of the skull, and called, from its basin-like form, the *Bascinet* (Pl. II., 38), was worn without the mail coif below. From it, covering the neck and shoulders, hung the *Camail* (Cap-Mail) of chain armour (87); but the face was still exposed. Only in rare cases was the *Aventail*, or *Ventail* (avant taille), used, and this, apparently, was often moveable.

The upper and lower parts of the arm were further protected by plates of iron (at first strapped over the mail), such as *Brassarts* and *Vambraces* (avant bras); the hands, by iron *Gauntlets*; the thighs, by *Cuisses*, *Cuissets*, or *Cuissarts*; the ancles, by *Jambarts*; and the feet by *Sollerets*. The knee and elbow pieces were more and more enriched, but retained the same character as in the former period. Over all was sometimes worn a padded garment called the *Haqueton*, and either with or without it the *Jupon*, which, shorter than the surcoat but of the same character, superseded it. The *Pryk* spur was replaced by one with Rowels, and the iron shoes were long, pointed, and of laminated plate (Pl. II., 108).

Generally in the tournament, and sometimes in the field, the huge Helm or *Heaulme* (88) carrying the crest of the knight was worn over a small *Bascinet*. It nearly rested on the shoulders, and was further ornamented with a flowing scarf or mantle (the *Contise* or *Mantling*), often richly fringed, scalloped, or coloured, which hung from the cincture of the crest. Its use was doubtful, except to keep off the sun's rays from the iron head-piece or add dignity to the wearer. Crests only came into general use in the 14th century, while feathers were not worn in helmets until the reign of Henry IV.

Footmen wore the *Jack*, a heavy leather-faced, cotton-padded, loose coat. So stout was it that when Wat Tyler captured that of the Duke of Lancaster, it was found impossible to damage it with arrows, and it was cut to pieces with an axe. Bow-men used the Hauberk of mail with *Chapels de fer* or *Salades* (90), both of which were iron helmets fitting the shape of the head.

Arms varied little. The tilting lance was quite fourteen feet long. The fighting lance not much shorter; but the gonfanon had been replaced by the swallow-tailed pennon bearing the knight's crest or war cry. His armorial bearings were still carried on the *Jupon* or on his square-shaped standard. The *Martel de fer* (Pl. I., 56), a hammer-shaped mace with a pointed pick at the back, came into use. It was especially valuable against mail. The dagger (Pl. I., 17), worn on the right side, became general; and, made broader and stouter, was called the *Misericorde*, from its use in putting an end to the dismounted and defeated adversary.



Footmen still carried the *Cross* and *Long Bow*, the *Gisarme*, the *Bill* (an axe-like weapon which had taken the place of the Saxon Axe or *Byl*), the *Halberd*, the *Pike*, and the *Harsegaye* or demi-lance, some eight feet long.

This period may be deemed the most interesting in the history of Knighthood. Not only did most of the more ancient European Orders take their rise during these times, but the knightly system was fully organized; and the laws and customs of chivalry were drawn up, recognized, and obeyed. In many respects it was but the survival of older things. In ancient Germany candidates to bear arms were elected in public council, and permission to do so was conferred by the presentation of a javelin and sword. The Saxon law laid down that no man should go unarmed.

The right of conferring knighthood had varied. Before 1102 Abbots of the Church had the power to bestow the golden spurs. Hereward le Wake received his knighthood from the Abbot of Crowland. But later on, only Bishops, Princes, or Knights themselves were permitted to bestow the honour; and with them all, great care was exercised that the recipient should be worthy thereof. Considering the value of money in those days, the costs were heavy, for robes alone amounting to £33. The golden collar of SS, or Esses, part of the knightly decoration, must have been costly. Its origin is very doubtful. Whether from "*Souveraine*," from "*Sanctus Simo Simplicius*" (an eminent Roman lawyer), or in compliment to the Countess of *Salisbury*, has not been yet determined.

The knightly duty was laid down with exactness, though probably few carried all the wholesome rules in their entirety. "They must learn from the beginning to labour, run, carry weights, and bear the sun and dust; to use sparing and rustic food, sometimes to live in the open air and sometimes in tents; then to practice the use of arms."

The "true merit of a knight is correctly stated by the Troubadour Arnaud de Marveil." It is "to fight well, to conduct a troop well, to do his exercise well, to be well armed, to ride his horse well, to present himself with a good grace at courts and to render himself agreeable there. Seldom are these qualities in the same person. To unite martial habits and vigour with the courteous elegances of polished life, could not be often accomplished in a half-civilized age."

His oath declared his duty to be "To defend the Church, to attack the perfidious, to venerate the priesthood, to repel the injuries of the poor, to keep the country quiet, and to shed his blood and if necessary to lose his life for his brethen." But if his duties were grave, his privileges were great. Knights were free from all "gelds" and taxes and from all other services and burthens by Henry I., in order "that being so alleviated, they may instruct themselves in the use of horses and arms and be apt and ready for my service and the defence of my kingdom." Salisbury also mentions that knighthood "rejoices in many immunities and more eminent privileges, and has not to provide horses, carriages, and other sordid burthens."

Yet another advantage, of doubtful value perhaps, was that of being rated at a high value when taken prisoner in war. His ransom, always higher than a less titled personage, sometimes amounted to 10,000 crowns, but if of higher value than that, the captor was obliged to surrender him to the king. Those who were knighted for valour on the field of battle, were empowered to use the square instead of the swallow-tailed pennon as Knights Banneret, and had the privilege of a war cry. From this came the mottoes of the modern "coats of arms."

The history of Knighthood is a part, and a very important part too, of the history of Arms. To its institution can be traced many of the decorations and forms of the Arms and Armour of the middle ages. The honours it offered were so great and highly prized, that it increased martial enthusiasm and encouraged military exercises; and the part taken by women in rewarding the exertions of the knights both in the tournament and in battle, exercised an enormous influence over the warlike portion of mankind. Where the prizes were so great, attention to Arms of offence and Armour of defence became natural and right. The chivalric feeling engendered by Knighthood and knightly exercises, was not confined to joust and tournament in times of peace. It was a useful and valuable adjunct to personal bravery in war. "Oh, that my lady could see me now!" said a knight as he successfully led his men to the storm of a well-defended breach. The spirit thus aroused was due to the knightly customs of the times.

III.—PLATE ARMOUR, (A.D. 1410—1600). By rapid degrees, towards the beginning of the 13th century, plate took the place of mail entirely. Thus the *Helmet* became closed with a moveable *visor* (Pl. II., 91), which covered the face when required; the *Gorget* replaced the *Camail*; *Pauldrons* covered the shoulders and the arm-pits; the *Brassarts*, which sometimes formed part of the *Pauldrons*, the upper, and *Vambraces* the lower, part of the arm; the *Coudieres* expanded till they resembled fans; below the Cuirass, with its back and breast plates, hung the *Garde de rein* and *tasses* or *taces*, covering the lower part of the body in rear and in front; the *Cuisses* and *Poleyns* (often fantastically shaped) completely protected the thighs and knee; the *Jambs* surrounded the legs and ancles, and were sometimes joined to the *Sollerets*. These latter soon lost their pointed form, and were succeeded at the beginning of the 16th century by *Sabbatons* with square or rounded toes (Pl. II., 109). A leather suit was worn underneath the armour to lessen its discomfort; and over it the *Tabard*, a short and sleeveless coat, bearing the wearer's armorial bearings in front, behind, and on the sleeves, sometimes replaced the Surcoat.

Armour often followed the dress of the time, and became highly decorated, richly engraved, and sometimes fluted as in Henry VIIIth's reign. In the time of Henry V., the breast-plate was globose. In other instances it assumed all sorts of wild and useless designs. Its weight increased until it could scarcely be carried. Though cooler

than the padded mail, movement was even more difficult. The weight of an ordinary suit of proof-armour without the necessary accessories was about 75 lbs., and this was a light suit. Horse Armour with *Chamfron* for the face, and plate over the hind quarters and chest, came in during Henry VIth's reign.

Knights when they fell were helpless. They could be picked out with a dagger, like a periwinkle with a pin, or smashed with a hammer, like a lobster, by the most unknighly varlet on the field. Philip de Commynes relates that at the battle of Fournoue, under Charles VIII., the Italian Knights when they fell were attacked by the camp followers, who, three or four together, broke their armour open with woodcutters' axes.

Even James I. viewed Armour with no great favour. He said that it "not only protected the wearer, but also prevented him from injuring any other person."

Often, few were killed: whether because of their Armour's strength or from their value in ransom, it is hard to say: but most probably their safety was due to the latter cause.

Pay had become a recognized institution, and had been tabulated according to grades.

A Duke	with 50 horses	received	13/4	per day.
An Earl	„ 24 „ „		6/8 „	
A Baron	„ 16 „ „		4/- „	
A Knight	„ 6 „ „		2/- „	
An Esquire	„ 4 „ „		1/- „	
An Archer	„ 1 „ „		6d. „	

Arms had still varied little. The two-handed sword with long two-edged blade had been used by the Swiss and by some others. With them and with the Scotch, as the early *Claymore*, it was a national weapon. Among the Southern peoples, too, another form of sword, which was eventually to effect a revolution in the principles of personal combat, was coming into use. In Spain at least the *Rapier* was being thought of; but the ordinary sword was still plain, heavy, cross-hilted, and with a heavy pear-shaped pommel. The days were those of hard hitting rather than stabbing, and the defence afforded by gauntlet and body armour long kept the sword for cutting purposes only. Fencing, that is guarding by the weapon itself, was an unknown art. But gunpowder was known, and fire-arms were slowly coming into use. With them came the gradual abandonment of heavy Armour of plate.

The Bow gave way in this period, therefore, to the fire-arm, and it will not therefore be out of place to give its history and characteristics here. As a missile weapon it had occupied a prominent position, and was, at first, more effective than the early forms of the new arm which was destined to effect the abolition of Armour and exercise an important influence on the fighting power of nations.

The Long Bow was a peculiarly *English* weapon. It was little known or used by the Saxons; and the last of the Saxon kings, Harold, owed his defeat in some respects to its deadly effect. As a

weapon it was at its zenith in the 14th century, and was in use, partial or otherwise, from the Conquest to Elizabeth's time. The importation of bow-staves was encouraged. Merchants were obliged to bring four for every ton of merchandize imported, and ten with a ton of wine. Staves,  $6\frac{1}{2}$  feet long, were free of duty. A painted bow cost  $1/6$ ; a white bow,  $1/-$ ; and a sheaf of arrows (24) cost  $1/2$ . While the pay of an Archer was 4d. and 6d. a day, that of a Knight only amounted to 2/-, and that of an Esquire to  $1/-$ .

Every man having boys of 7 to 17 years of age was obliged to provide them with a bow and two shafts; after 17, the youth had himself to keep a bow and four arrows, under penalty of a fine of  $6/8$ . None under 24 years of age were allowed to fire at a standing mark at a less range than eleven score yards.

Bows of Ash, Elm, or Hazel were intended for boys; of Yew, for men. They were to be six feet in length, and had a range of sixteen to twenty score yards. Their rapidity was such that six could be discharged for one musket-shot, and a skilful Archer could let off twelve a minute.

The power of penetration of the Arrow was considerable. In Edward VIth's Journal it is stated that each Archer of the Guard shot two Arrows and pierced an oaken board an inch thick.

The accuracy of fire attained by them seems almost incredible. The story told by Sir Walter Scott, in *Anne of Gierstein*, is not more fanciful than many anecdotes of the rapid, accurate discharge of the Bow. "He first removed the pole a hundred yards farther than the post where it stood. 'Singular,' said the Landamman, 'that is double the usual distance.' He then drew the bow and shot off one after another, with incredible rapidity, the three arrows which he had stuck into his belt. The first cleft the pole, the second cut the string, the third killed the poor bird as it rose into the air."

The Bow held its own long after the introduction of fire-arms. Its fire was two to one quicker; it had greater moral value, as its effects were seen; it was actually at first more powerful, and certainly more accurate than the Arquebus. Bowmen required less room than musketeers to use their weapons, and several ranks could fire at once. A bullet did not always disable a horse; but an arrow sticking into him, increased his pain and exhaustion by dragging on the wound. On the other hand, there were few good Archers, and the arrow could not pierce the best plate-armour which shot, as powder improved, did. When Richard II. invaded Scotland he took 4,660 men-at-arms and 7,224 archers, showing the value attached to bow-men. But in the end of the 16th century the fire-arm was coming to the front. Sir Roger Williams expresses himself strongly on this point:—"I persuade mysele 500 musketeers are more serviceable than 1,500 bow-men, for among 5,000 bow-men you shall not finde 1,000 good archers—I meane to shoot strong shots—let them be in the fields three or four months, hardly finde of 5,000 scarce 500 able to make any strong shootes." Again, "Few or none do any great hurt twelve or fourteen score off." Still in English hands the Long Bow decided many a Mediæval battle.

Though the Cross Bow was more favoured abroad than in England, it was still much valued in this country. Introduced in the end of the 12th century, it remained in use until the time of Elizabeth. The Bow was of wood or steel, and received the name of "*Arc-a-buse*" at first; the term eventually given to the fire-arm. It discharged arrows, quarrels (Pl. I., 75), or bullets, at the rate of about three a minute, to a range of 40 to 60 yards point blank; or, with elevation, to 100 or 200 paces. The cord was drawn back either by a moulinet (or windlass), or by a lever called a "goat's foot." It was chiefly used by the Genoese, 15,000 of whom fought at Cressy in 1346; and was good and accurate at short ranges, required little training, and above all could be used from horse-back. But it was slow in operation as compared with the bow.

The improvement in fire-arms, which led to the abolition of the bow, was not confined to the portable weapon only. The military machines of the middle ages had given place to cannon; and the destructive effect of these led, even more than that of the arquebus, to the abolition of body armour. The Catapult and Balista, and similar machines for discharging stones and arrows were too ponderous and inaccurate to be of much value except in sieges. They could not be placed in position on an ordinary field of battle; so the armed Knights had nothing to fear from heavy projectiles in ordinary cases. But Artillery which employed gunpowder, soon became sufficiently portable for ordinary field operations. Its projective force did not depend upon heavy windlasses, the elasticity of heavy beams of wood, or masses of twisted rope. When, therefore, the new military engine could be brought to bear upon the mounted troops, who had long formed the back-bone of the battle array, the days of Armour were indeed numbered. Greater activity and agility were of more importance than carrying for defence such a mass of iron that movement was necessarily slow, while its protective power was practically gone. So that the change, though at first partial, soon became complete; and the duration of even Half Armour was not a lengthy one.

IV.—HALF ARMOUR (A.D. 1600—early 18th century). The first change was to get rid of all those parts of the body armour which did not protect the vital parts. The *sollerets*, and *jambes*, the *cuissees*, *tasses*, *gardes de rein*, and *vambraces*, soon were laid aside (Pl. II., 111). Long boots, leather coats, and leather gauntlets, sufficiently strong to ward off sword blows, and considerably lighter than the armour, took their place. The Helmet became lighter and more open, as the *Burgette* (Pl. II., 93). At first provided either with a long moveable *nasal* which reached to the chin (or a face guard composed of an oval circlet of thin iron, to which was attached a fixed nasal (Pl. II., 92) which was fastened to the helmet itself), it soon gave place to the *Morion* or *Pot* (94), a broad-brimmed skull cap, of different shapes, well lined with quilted cotton. The breast and back pieces were still retained, though the former was thickened to resist the musket bullet, while the latter remained sword-proof only.

The Buff Coat often became the substitute of the iron cuirass; and so body armour finished as it begun, with the tanned skins of beasts (Pl. II., 112). In William III. and Anne's reign even this was abandoned, and laced coats, heavy boots, and three-cornered hats became the fighting costume of Knight and footman (113).

For parade or ceremonial purposes the breast-plate or *Corslet* still continued for Cavalry, until at length it too disappeared, and only an iron gorget covering the neck remained. Finally, this last remnant dwindled in size; until, replaced by a small oval brass ornament bearing the regimental number, it became merely the sign that the officer wearing it was "on duty" (114). In use in England until the end of the long war, it was worn in France till recently. The cuirass, after being laid aside in England in 1794 (though still worn by some of the heavy Cavalry regiments of foreign armies), was re-adopted in 1820 by George IV. This, with the steel or brass helmets of the Dragoons, is the last survival of the Plate Armour of Mediæval days.

The Sword, during these periods of change, had varied much, and must be considered separately. The Halberd and Partizan, in all their numerous forms and varieties also long survived, until they became mere ceremonial weapons.

Fire-arms had made rapid strides up to and during the Half-Armour period. Their history can be briefly told. During the latter part of the Plate Armour period portable fire-arms had been introduced, and were rapidly improved. To their use may be attributed the alteration in the character of Armour; at first in lessening the excessive weight, and later on in causing its gradual abolition and disuse.

Gunpowder seems to have been in use in England in 1346. "Gonnes" are mentioned, in an inquisition taken at Huntercombe in Yorkshire in 1375, as having been carried by the attacking party; but whether these were fire-arms is open to question. Certain it is, they were used in the army of the Duke of Orleans in 1414. Their first pattern was like a small cannon of brass with trunnions, and a touch-hole on top; they were fired with a match, and cost four shillings. The second pattern (A.D. 1446) had the touch-hole with a pan at the side, as the priming often blew off; and instead of trunnions it had loops along its base to fasten it to the stock, which, gun and all, was only one yard long.

After this first type the varieties are numerous. The *Arquebus* (either from "Arca-bouza" [bocca], or "arc à bouche") was fired with a match. In 1485, the Yeomen of the Guard were armed partly with Bows, partly with Arquebuses. The *Arquebus a Croc*, used in the Netherlands in 1579, had, like the Naval Paterero, a moveable chamber for the charge.

These fire-arms were fired from the chest.

The *Haquebut* or *Haggbuss*, in 1547, had a bent stock and could be fired from the shoulder. Its total length was three-quarters of a yard. The *Demi-Haque* resembled a very long pistol with a very curved butt, and was the forerunner of the *Pistol*.

These seem to have been transitional in character. The *Arquebus*

long continued in use, improved in form; but about 1525, the Spaniards introduced a heavier weapon—the *Musket*, with a four-foot barrel and bullets of 12 to 11lb. This was at first fired with a match, so that the soldier had to carry a powder flask, a priming flask, a bag for bullets, and a rest to support the heavy piece. Its slowness of loading rendered a sword still necessary for defence.

The inconvenience of the matchlock was very apparent; there was danger of sparks falling into the open powder barrels, whereby men were often injured; and as by night the position of the troops could be seen by the lighted matches, they were at one time carried in cases pierced with holes to lessen the inconvenience. Hence in 1521 a *wheel-lock*, in which ignition was effected by the collision of a rotating wheel (wound up by a spanner) against a piece of iron pyrites, the stream of sparks being directed against the open pan of priming. The *Snaphaunce*, a cheaper weapon, with flint instead of pyrites, was much used in Germany by Dutch marauders, and was in principle the same as an ordinary flint-lock, but weak and irregular in action.

The fire-arms had, up to 1584, been of various sizes of bore, but at this time they were made of the same dimensions, or *Calibre*, and hence took the name of *Calivers*, or "*pièce de Calibre*." No wad was used on top of the charge, so that the bullets used often to drop out.

These were followed by the *Carabine* (a Harquebuss with a wheel-lock), the *Esclopette*, the *Petronel* (a heavy "Dag" or pistol fired from the chest—whence its name), and the "*Dag*," a true pistol, very long and with a slightly bent stock.

During all this time the pike men, with pikes 16 to 24 feet long, were mixed with the Harquebusiers (or "shot") in the "*Battalia*," which answer to modern Battalions. From 1600 until 1670, the *Bandolier* was used to carry separate charges, though still the bullet bag and a priming flask were necessary; and as the arms became lighter the musket rest was abolished.

The match disappeared in 1690; the *fusil*, used between 1600 and 1700, which was lighter than the musket; the *Musketoön* (lighter still); the *Blunderbuss* and the *Dragon* (so called from its dragon-shaped mouth), followed as flint-lock weapons of sorts.

The general tendency was to lighten the weight of the weapon and charge, and facilitate loading by the introduction of cartridges.

The *Pistol* at this time became important, varying in length from 16in., and 24in., to 26in. in barrel, and carrying bullets 36, 20, and 40 to the lb.

Late in the 18th century a still better and lighter fire-lock, still called a *fusil* (from the Italian *focile*, a flint), came into common use, and the *dagger* and *pike* disappeared as Infantry weapons. But the former fixing at first into the muzzle of the fire-arm, as the *Plug Bayonet* (Pl. I., 44, 45), and finally fastened to it by a socket or spring (Pl. I., 46, 47), became the common and Sword *Bayonets* (Pl. I., 48). Thus, at length, early in the 18th century, the *fire-arm* and *pike*, became merged in the same weapon.

From that date the improvement was rapid and continuous. Iron

ramrods appeared in 1741 ; cartridges with powder and bullet about the same time ; percussion locks were added in 1839. The M. L. Minie Rifle was invented in 1851, was followed by the M. L. Enfield Rifle in 1855, and by the B. L. Rifle in 1867. The result of these changes have led to the production of a longer ranged, lighter, more accurate, and more deadly weapon and projectile, for the Infantry soldier (Pl. I., 76 to 79).

In the same way the Pistol came down to a 12in. barrel in the 18th century, and to a 6in. barrel in this century. In due course it was provided with a percussion lock, and eventually became the rifled revolver capable of discharging several consecutive shots without re-loading.

Lastly, among missile fire-arms may be classed the Grenades, (small iron "shells" thrown by hand), which, introduced in 1684, continued to be employed unto the beginning of this century by the Grenadiers, who, wearing a special uniform of caps and looped clothes, gave rise to the verse in the old soldiers' song—

" Come, let us fill a bumper, and drink a health to those  
Who wear the caps and pouches and eke the looped clothes."

Turning to the heavier varieties of missile weapons, Cannon, said to have been used at the Battle of Cressy in 1346, took their names at first, often enough, from the ornamentation of their exteriors.

The Crusaders' tales of serpents and dragons vomiting fire, were "travellers' yarns" of warlike engines, that, with mouths made to resemble dragons or serpents, discharged either gunpowder or Greek fire.

It was long before they became so portable as to be used in battles ; though in sieges, both for attack and defence, the heavy cumbrous weapons soon superseded the Catapults and Balistæ which had satisfied early mediæval artillerists. Like them, their first projectiles were of stone ; and as with the smaller fire-arms, one of their earliest types was a breech-loader. Their improvement followed, moreover, on the same lines ; cast-iron bullets, better powder, better carriages, led to really serviceable smooth-bore guns of every variety of calibre. Their names were taken from beasts and birds of prey, fabulous or otherwise, but noticeable for their supposed or actual swiftness and cruelty. Thus, there were the *Falconet*, *Falcon*, *Saker*, and *Culverin* or *Colubrine*, and the *Basilisk*, *Serpentine*, *Aspic*, *Dragon*, and *Syren*.

Their range in the Civil War time was as much as 2,500 yards, and the most common kinds in use were the—

	Calibre.	Shot.	Range.
Cannon Royal ... ..	8½ in.	66 lbs.	1,930 yds.
Culverin ... ..	5½ "	17½ "	2,500 "
Demi-Culverin ... ..	4 "	9½ "	2,500 "
Saker ... ..	4 "	7 "	1,700 "
Minion ... ..	3½ "	4 "	1,500 "
Drakes—3 to 6 pounds.			

From this date there has been a steady advance from cast-iron and bronze guns to wrought-iron and steel. The 18-ton gun of modern



times throws a shot of 300 lbs. to a range of 5,000 yards. In Germany the heaviest cannon are breech-loaders, as were their earliest ancestors.

Frequent mention has been made of the Halberd, Partizan, Bill, and Pike, as infantry or foot-soldiers' weapons of importance from time to time; and as their types and varieties are numerous, it will be as well here to trace their upgrowth and history. Speaking generally, there are only two groups: those that are modifications of the spear, and those that are the outcome of the axe. Both, then, may be traced to an Archaic ancestry.

The spear of stone, bronze, or iron (Pl. I., 31, 32), when widened and furnished with a guarding cross-bar became the Partizan (Pl. I., 32 to 36). Its varieties, as the *Military Fork* (Pl. I., 39), *Gisarme* (38), &c., and *Ranseur* (37), seem only due to decoration and fanciful multiplication of its parts. Getting lighter as its use became less evident, it dwindled to the leaf-shaped cross-barred *Spontoorn* (41), carried by the sergeants of the line up to 1820. Narrowed and lengthened in its staff till it was 16 to 24 feet long, it became the footman's pike (40), in the period of the Civil War, and fell into disuse in 1705, to be replaced by the Bayonet (46, 47). Its sole survival is in the light Bamboo Lance of the Lancer (42), and in the Boarding Pike (43) of the seaman.

Similarly, from the common War Axe arose the Halberd (Pl. I., 65, 66, 67). Lengthened in staff, with the end thereof pointed, and the tang of the Axe sharpened, it was capable of being used for cutting, hacking, charging with the point, tearing obstacles, and climbing walls. Against cavalry it was formidable, for it combined spear to resist the horse, axe to attack the man, and hook to hold or tear his reins.

Its varieties are so numerous that they have been somewhat needlessly sub-divided into subordinate groups. The *War-Scythe* or *Glaive* (Pl. I., 64), the *Bill* (61, 62), the *Voulge* (63), the *Pole Axe* (59), and the *Lochaber Axe* (60), are all forms of the same tool and capable of executing the same work. The simple Halberd was held in high esteem by Sir Roger Williams, who writing in 1590, says:—"Among 1,000 Pikes there should be 200 Bills or Halberts. Morions and Corslets should be musket-proof (caliver), discharged 10 or 12 score yards off. Let Halberts bee of good stuffe and stronglie made after the Milanese fashion, with large heads to cut, and broad strong pikes both to cut and to thrust; then, no doubt, the Halbert is nothing behinde the bill for all manner of service, and armes a souldier fairer than the Bill."

The *Bill* (Pl. I., 61, 62) itself was but a form of the *Halberd*, and was used by Foot-men for similar work. It was a cutting axe with some stabbing power; its name "Black" or "Brown" came from its colour, due to paint or rust. It was common in the time of Elizabeth; for the *Mary Rose*, with a crew of 200 Mariners, 50 Gunners, and 120 Soldiers, had among her "*Furniture*" 126 Harquebuses, 30 Bows, 60 Sheaves of Arrows, 100 Pikes, 120 *Bills*, and 50 Corslets.

In her reign, while an estate of £1,000 had to provide 16 horses and 40 suits of armour, one of £10 had to provide a Bow, a Sheaf, and a *Bill*.

Like the Partizan, the Halberd remained in modified use until modern times; for up to 1786 it was carried by Sergeants of companies and by the Colour-Guard. Flogging was carried out in the last century by lashing the man to a triangle formed of Halberds. Its survival is seen only in the *Boarding Axe* (Pl. I., 68) used in the Navy.

The Sword has had an equally varied career. As Spear and Partizan, Pike and Halberd, have been the survivors of more ancient things, so this, the most important weapon of all, is but the descendant of a stone tool. Palæolithic hand-stones, Cave Poignards of bone, Neolithic delicate stone daggers, Bronze daggers and short swords, and lastly the Iron swords and daggers of Præ-historic time were the forerunners of the Steel *Gladius*, and therefore of the true Sword. Its history is a lengthy one, for it has its Military, Political, Spectacular, and Social Aspect. But, briefly, with gauntleted hands it needed no guard, and with Armoured Men it required a two-edged, cutting, axe-like power. Thus, up to the 16th century, it was, as a rule, plain and cross-hilted and was not in itself a defensive weapon (Pl. I., 8, 10, 11).

But with the disuse of Armour came in fencing; and with it more use of the sword's point and less of the sword's edge (Pl. I., 12, 14). It became rapier-like, with a very long, narrow, and flat blade, having but little cutting power (116); or one-edged and much slighter than heretofore, so that it could be used for cut or thrust (18, 19). Being thus narrower and thinner, it was stiffened with grooves which lightened and strengthened it.

As Armour disappeared, the gauntlet went first. And hence the Sword was made to guard the hand from cut and from thrust. Thus from the beginning of the period of Half-Armour there is a tendency to make the Hilt more or less basket-like in the cutting Sword; more or less cup-like in the Rapier. In the 16th century the hilt was often richly decorated and overlaid with ornamentation and encumbrances. The simplest form of sword (Pl. I., 27, *b*) contains but the *Blade* with *point*, *body of blade*, *heel*, and *tongue*, and the *Hilt* with pommel (the ball at its upper end), the *barrel* (or grasping part), and the *cross-guards* (or quillons). But not only was the cross-guard often united by complicated interwoven iron bars with the pommel, but frequently a series of rings, called the *pas d'ane*, came out from the guard curving back upon the blade itself. In front of this again was often a lesser second guard. In the same manner in the rapier, the guard was cup-like to cover the hand, and often enough, this *shell* or *coquille* was pierced with minute holes or tracery to entangle the point of the adversary's weapon; but across it often ran a long straight cross-bar which helped to throw aside the enemy's thrust, and the back of the hand was still protected by a single curved bar of metal. With the long Spanish form of Rapier was often used the left-handed Dagger,

or *main gauche*, for guarding (Pl. I., 15). Every now and then there, are vagaries in form and type. Wavy or "flamboyant" blades, two-handed swords (Pl. I., 23 to 26), and the like. These were chiefly employed for ceremonial purposes.

During the 18th century the small, triangular-bladed Rapier, no longer than the ordinary sword, came into general use (Pl. I., 20). It was followed in the early part of the 19th century by swords having hilts similar to those for Rapiers, but with straight, one-edged blades (21). In form and shape these were inferior for both cutting and stabbing. Later on it has become a semi-basket-hilted weapon with a slightly curved, one-edged blade, with a two-edged point; it is meant to stab as well as cut, to be axe as well as spear (22, a). The Dagger finds its sole survival in the Dirk worn by junior naval officers (22, b).

No weapon has exercised so powerful an influence on the destinies of mankind as the sword. The *gladius* conquered the world not merely because it was a true steel sword and an excellent fighting tool, as compared with those of the nations the Romans had to meet, but because it was carried by men who knew its value. *Morale*, moral courage, is induced by a knowledge that one's weapons are superior to those of the antagonist. The good sword implies a personal courage, the intention of closing with the adversary, and an individuality that no other weapon possesses.

At times it had its special religious aspect. The cross of the Crusader's sword was the emblem to him of his faith, and of his cause. His prayers said before it, a consecrated weapon, had all the reverence that would have attached to prayers before the Crucifix; his oath upon it was as an oath on the Cross of Christ.

At all periods a ceremonial weapon, now it is mainly so. The two-handed Sword of State has been carried before Kings, and Princes, and Potentates from early days even until now. The Dress Sword of the Lord Mayor means but guardian power. The State Sword worn by a Court Official but implies the defence of the Sovereign's person, and the right of those surrounding the Throne to carry Arms. At all times it has been the emblem of personal authority and of governance.

Highly prized as heirlooms in those days when swords were rare, they often appear in the chronicles of ancient wills. Æthelstan mentions in his will "the sword of King Offa, the sword which Ulfeytel owned, and that with the silver hilt which Wulfric made." Similarly, in Japan the father's sword was a precious heirloom, a sacred charge; and this feeling has been common among all nations where the profession of Arms was held to be noble, and the Arms themselves revered. Mrs. Norton has touched this chord very tenderly in one of her poems:—

Tell my Mother that her sons will comfort her old age,  
For I was but a truant bird, who thought his home a cage;  
For my Father was a Soldier, and even as a child  
My heart leaped forth to hear him tell of struggles fierce and wild.  
And when he died and left us to divide his scanty hoard,  
I let them take what e'er they would, but kept my Father's sword;  
And with my boyish love I hung it where the bright light used to shine,  
On the Cottage walls of Bingen, fair Bingen by the Rhine.

This very feeling caused a certain amount of personality to be attached to the sword itself. Thus swords have had fanciful names, as Cæsar's *Crocea Mors* (yellow death), Charlemagne's *Joyeuse*, Mahomet's *Al Battar* (the beater), Ali's *Zulfagar*, and King Arthur's *Excalibur*. In other cases they bore mottoes, such as on the Scotch sword, which has—

“ At Bannockburn I served the Bruce  
Of which the Inglis had no ruse.”

An Italian blade has on it :—

“ Draw me not without cause,  
Sheath me not without honour.”

In other cases the mottoes are of a religious cast : as “ In te Domine,” “There is no conqueror but God,” “Do not abandon me, oh ! faithful God,” and so on. Lastly, they bear the names or monograms of the places where they were made, or persons who forged them. Thus, Solingen in Germany, and Sahagun in Spain, were noted for sword blades, and the former is so still. Many of the early makers take their names from the town in which they worked or were born, as Alonzo de Sahagun and Andrea di Ferrara did.

But now the sword has little value save as the insignia of office. In modern war, when rifle fire is so deadly, the occasions for its use are unfrequent indeed. Even when actively employed, as on rare occasions by Cavalry, there is little skill shown, and the loss is rarely heavy. But survivals of the days of Armour and of Arms surround us still. The acts of courtesy of removing one's hat or shaking hands with an ungloved hand are, after all, but baring the unarmoured head and using the unmailed, and therefore friendly, hand. With the soldier's salute the dropping of the sword-point is exposing the unguarded breast, the “present arms” but offering the power of firing the weapon to the person saluted. Passing right hand to right hand is but being on one's guard, and having the power of easily standing on the defensive. Even the two useless buttons on the back of the male coat may be but the survival of the means whereby the sword belt was kept up.

In the names of Bachelor, Esquire, and Soldier, live those of *Bas Chevaliers* (Inferior Knights), *Escuyer*, and *Solde*, or Pay. In the expression “pulling the long bow,” survives the spirit of some of the tales told by stout yeomen over strong ale. In the fantastic flourishes that surround the helmet and shield in the painted coat of arms, is seen still the mantling that covered the tilting Heaulme.

Throughout all time there has been a natural tendency to praise war and warlike deeds for their own sakes. The sentiment of religion that even now hangs around it when nations, on the declaration of war, call upon the Deity to sanctify their cause, is common with all races and peoples and tribes. The Jews spoke often of the “God of Battles” and the “Conqueror of other Gods.” The Mexicans offered prisoners by the thousand on the War God's Teocalli. Even now the Khoonds of Orissa believe that war is caused and willed by Loha.

Penni, the God of War. And yet, after all, "war is a barbarism which civilization only intensifies." Its personal interest lies in the unknown survival of warlike feelings and ideas; to it attaches the natural admiration for personal courage, for the steady continuance of duty done under circumstances of the greatest physical and mental strain and excitement, and for that "obedience unto death" which has been the guiding spirit of all true soldiers. Discipline, Abnegation of self, and Courage are all virtues up to a certain point, and as such have always touched the chord of human sympathy.

## PLATE I.—WEAPONS.

### I.—THE SWORD.

From the hand-stones of Palæolithic times seems to have been derived the Sword in all its forms. At first, chiefly a stabbing weapon; then a cutting two-edged weapon with a simple cross-guard, and used with an armoured hand; next, with a more protective hilt, when hand-armour fell into disuse, and when the blade, less heavy, was stiffened by grooves; next, a still more complete hand-guard, and the introduction of the stabbing rapier, with, still, a cutting edge; next, the complete rapier, with triangular blade for stabbing purposes only; and, lastly, the one-edged sword, with a semi-basket hilt and a two-edged point.

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|--------------|---|---|
| ARCHAIC, &c. | { | 1. Palæolithic Stone implement—France, St. Acheul.<br>2. Neolithic chipped Stone Dagger—Denmark.<br>3. Bronze Dagger—Denmark.<br>4. Bronze Sword—Scandinavia.<br>5. Iron Sword—Hallstadt. |
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|------------------------|---|---|
| EARLY HISTORIC,<br>&c. | { | 6. Steel Sword (Gladius)—Roman.<br>7. Steel Dagger (Parazonium)—Roman.<br>8. Sword—Danish, 10th century.<br>9. Dagger (Scramasax ?)—Saxon, 9th century. |
|------------------------|---|---|

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|---------------|---|---|
| MEDIÆVAL, &c. | { | 10. Sword (two-edged)—Dutch, 16th Century.<br>11. Sword (two-edged)—German, 16th century<br>(early).<br>12. Sword (two-edged)—Italian, 16th century.<br>13. Sword (two-edged)—( <i>Estoc</i> )—English, 16th<br>century.<br>14. Sword (two-edged)—( <i>Malchus</i> )—Italian, 16th<br>century.<br>15. Dagger (two-edged)—( <i>Main gauche</i> )—Spanish,<br>16th century.<br>16. Rapier (two-edged)—Spanish (?), 16th century.<br>17. Dagger (two-edged)—English, 16th century. |
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|--------------------|---|--|
| CAROLINE.          | { | 18. Sword (two-edged)—( <i>Schiavona</i> )—Venetian, 17th century.         |
|                    | { | 19. Sword (two-edged), basket-hilted — English, 17th century.              |
| GEORGIAN (MODERN.) | { | 20. Rapier (triangular blade)—English, 18th century (late).                |
|                    | { | 21. Sword (one-edged)—English, 19th century (early).                       |
|                    | { | 22 (a). Sword (one-edged, <i>Army</i> )—English, 19th century (modern).    |
|                    | { | 22 (b). Dagger ( <i>Naval Dirk</i> )—English, 19th century (modern).       |
| SPECIAL FORMS.     | { | 23. Sword (two-handed)—( <i>Flamboyant Espadon</i> )—German, 16th century. |
|                    | { | 24. Sword (two-handed, from Canterbury)—English, 16th century.             |
|                    | { | 25. Sword (two-handed; Guy of Warwick?)—English, 15th century.             |
|                    | { | 26. Sword (two-handed)—( <i>Cleadh Mohr</i> )—Scotch, 15th century.        |
|                    | { | 27. Sword ("Claymore; " <i>Andrea Ferrara</i> )—Scotch, 17th century.      |

## II.—SPEAR AND PARTIZAN.

From the Spear appear to have been derived, in different forms, the thrusting weapons; (a) the Partizan; (b) the Lance and Boarding Pike; (c) the Bayonet.

- |               |   |  |
|---------------|---|--|
| ARCHAIC, &c.  | { | 28 (a). Neolithic chipped Stone Spear—Denmark.                                     |
|               | { | 28 (b). Bronze Spear—Gaulish (Mainz).  |
|               | { | 29. Iron Spear ( <i>Pilum</i> )—Roman.   |
|               | { | 30. Iron Spear—Saxon (Reading).  |
| MEDIÆVAL, &c. | { | 31. Iron Spear or Lance—German, 8th century.                                       |
|               | { | 32. Iron Lance—Anglo-Saxon, 11th century.  |
|               | { | 33. Iron Partizan—German, 15th century.  |
|               | { | 34. Iron Partizan—Swiss, 15th century.   |
|               | { | 35. Iron Partizan—German, 17th century.  |
|               | { | 36. Iron Partizan—Spanish or Dutch, 17th century.                                  |
|               | { | 37. Partizan ( <i>Ranseur</i> or <i>Spetum</i> ) — English (R.M.C.), 17th century. |
|               | { | 38. Partizan ( <i>Gisarme</i> )—English (R.M.C.), 13th, 14th century.              |
|               | { | 39. Partizan ( <i>Military Fork</i> )—Italian, 17th century.                       |
|               | { | 40. Pike (Footman's)—English, 17th century.  |

- |          |   |   |
|----------|---|---|
| MODERN.  | { | 41. Pike ( <i>Spontoön</i> )—English, 18th century. |
|          |   | 42. Lance (Cavalry)—English, 19th century.          |
|          |   | 43. Pike (Boarding, Naval)—English, 19th century.   |
| BAYONET. | { | 44. Bayonet (Plug)—English, 17th century.           |
|          |   | 45. Bayonet (Plug)—English, 17th century.           |
|          |   | 46. Bayonet (Socketed)—Russian, 19th century.       |
|          |   | 47. Bayonet (long)—English, 19th century.           |
|          |   | 48. Bayonet (Sword)—English, 19th century.          |

### III.—AXE AND HALBERD.

From the Stone Axe seem to have been derived crushing and heavy-cutting weapons ; (a) Axes, Maces, War-hammers, &c., for cavalry ; (b) Halberds and Long-poled Axes for footmen ; (c) Naval Boarding Axes.

- |               |   |  |
|---------------|---|--|
| ARCHAIC, &c.  | { | 49. Palæolithic Stone Axe—France (Aquitaine).          |
|               |   | 50. Neolithic polished Stone Axe—Swiss Lakes.          |
|               |   | 51. Bronze Axe—Danish.                                 |
|               |   | 52. Iron Axe—Merovingian.                              |
|               |   | 53. Iron Axe ( <i>Francisca</i> )—Frankish.            |
|               |   | 54. Iron Two-headed Axe ( <i>Byl</i> ?)—Saxon.         |
| MEDIÆVAL, &c. | { | 55. Iron-shafted Battle Axe—German, 16th century.      |
|               |   | 56. Martel de Fer—Hussite, 15th century.               |
|               |   | 57. Mace—English, 15th century.                        |
|               |   | 58. Mace ( <i>Morning Star</i> )—German, 15th century. |
|               |   | 59. Pole Axe—Russian, 16th century.                    |
|               |   | 60. Lochaber Axe—Scotch, 16th century.                 |
|               |   | 61. Bill—English, 15th century.                        |
|               |   | 62. Bill (Black)—English, 15th century.                |
|               |   | 63. Voulge—German, 15th century.                       |
|               |   | 64. Glaive—German, 16th century.                       |
|               |   | 65. Halberd—German, 16th century.                      |
|               |   | 66. Halberd—Swiss, 16th century.                       |
| MODERN.       | { | 67. Halberd—English, 18th century.                     |
|               |   | 68. Boarding Axe—English, 19th century.                |

### IV.—MISSILE.

From the Hand "Throw-stone" have been derived the Sling-stone, Arrow, and Bullet.

- |          |   |  |
|----------|---|--|
| ARCHAIC. | { | 69. Throw-stone (Neolithic)—English.                 |
|          |   | 70. Sling-stone (modern, for comparison)—South Seas. |
|          |   | 71. Chipped Flint Arrow-heads—Denmark.               |
|          |   | 72. Bronze Arrow-heads—German.                       |

73. Iron Arrow-heads—Merovingian.  
 74. Iron Arrow-heads—German, 14th, 15th century.  
 75. Cross-bow (*Quarrel*)—German, 14th century.
- BULLETS. { 76. Bullet (Round, for "Brown Bess")—English, 18th century.  
 77. Bullet (Elongated, for "Enfield Rifle")—English, 19th century.  
 78. Bullet (Elongated, for "Snider-Enfield")—English, 19th century.  
 79. Bullet (Elongated, for small bore, "Martini-Henry")—English, 19th century.

## PLATE II.—ARMOUR.

### I.—HELMETS.

Beginning with bronze, as with Greeks, &c., they passed into iron or possibly bronze, with the Romans; and leather, iron-mounted with the Saxons and Germans. In the period of Mail (A.D. 1066—1300) they became, first, conical (with nasal), and then flat-topped; in that of Mixed Mail (A.D. 1300—1410) they became sugar-loaf in shape (with camail), or somewhat rounded (as in the bascinet); in that of Plate they became heavy and large (as the Heaulme), rounded (as the Salade), or closed with vizor (as the Helmet); in that of Half-armour (A.D. 1600, early 18th century) they retained, at first, the rounded form, with flap to cover the neck, lappets to cover ears, and either face-guard or nasal (as the Burgonet), and finally became the open Morion or Pot.

80. Bronze—Assyrian.  
 81. Bronze—Greek.  
 { 82. Bronze }  
     or } Roman.  
 { 83. Iron }  
 84. Leather (iron-bound)—Saxon.  
 85. Mail (*Chapelle de Fer*)—William I.  
 86. Mail (*Chapelle de Fer*)—Richard I.  
 87. Mixed (*Helmet with Camail*)—Edward III.  
 88. Mixed (*Bassinet*)—A.D. 1350.  
 89 (a). Mixed (*Tilting Heaulme*)—14th century.  
 89 (b). Mixed (*Heaulme* with crest and mantling)—14th century.  
 90. Plate (*Salade*)—15th century.  
 91. Plate (*Closed Helmet*)—A.D. 1600.  
 92. Half ("Lobster-tailed," with face-guard)—Charles I.  
 93. Half ("Lobster-tailed," with Nasal)—Charles I.  
 94. Half (*Morion* or *Pot*)—Charles I.



## II.—MAIL.

The earlier forms were composed of rings or small plates, either sewn between leather, on leather, side by side or over-lapping, and, finally, of rings interlaced; forming an iron coat which lay over an under-coat of leather or quilted material. The different kinds were:—

- 95. Trelliced (plates between linen or leather, and with a central stud).
- 96. Ringed (rings sewn side by side).
- 97. Rustred (overlapping rings, side by side).
- 98. Mascled (plates sewn on the surface).
- 99. Lorica (circular plates, overlapping).
- 100. Tegulated (square plates, overlapping).
- 101. Jazerant (rectangular plates, overlapping).
- 102. Banded (small overlapping rings, with strips between).
- 103. }
- 104. } Double Chain (interlaced rings).

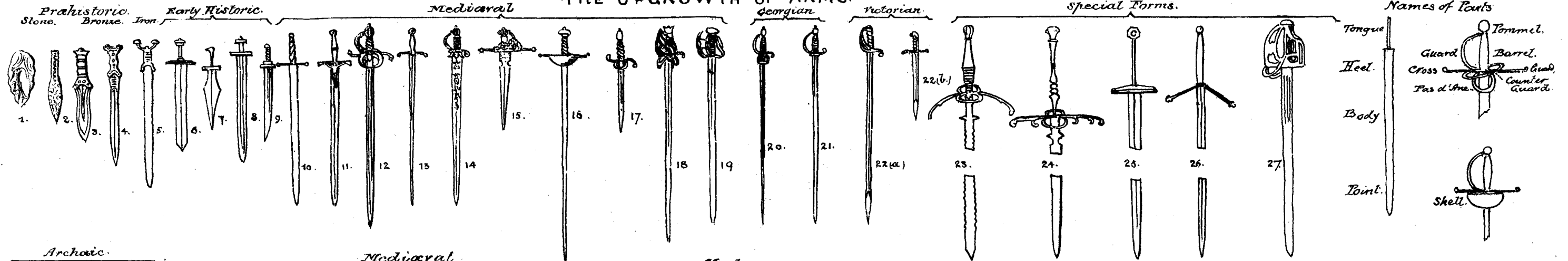
## III.—ARMOUR.

The combinations of Mail and Plate were numerous and varied, but the following show the principal types:—

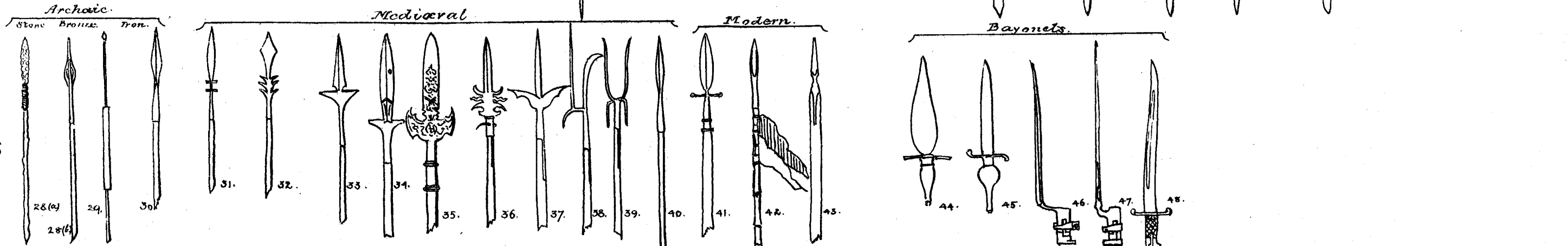
- 105. Roman Legionary (iron helmet, with iron or bronze armour, mayhap).
- 106. Saxon (leather, iron bound helmet, and ringed coat)—Harold II.
- 107. Mail Armour (Chapelle de Fer and ringed Hauberk)—William I.
- 108. Mixed Armour (Camil, Plate, and Mail)—Edward III.
- 109. Plate Armour.
- 110. Half Armour (Knight, with helmet, body, arm, and thigh armour)—Charles I.
- 111. Half Armour (Pikeman, with Burgonet, body and thigh armour)—Charles I.
- 112. Half Armour (Arquebusier, with Pot and Buff Coat)—Commonwealth.
- 113. Half Armour (Officer, with Cuirass only)—William III. and Mary.
- 114. Brass Gorget—(worn on duty)—George III.

# THE UPGROWTH OF ARMS.

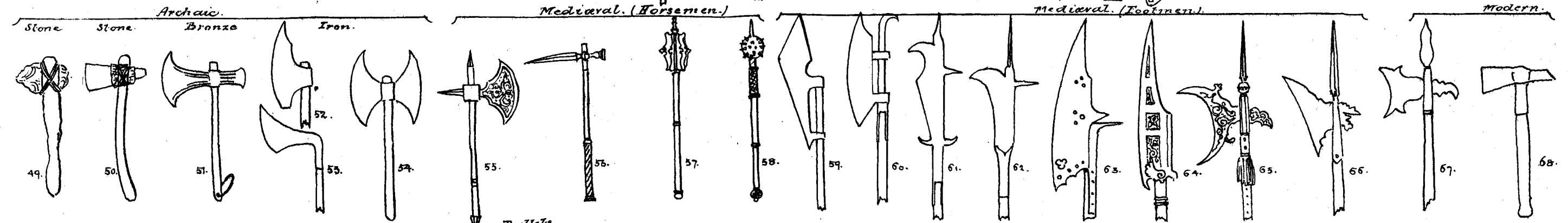
## I Sword.



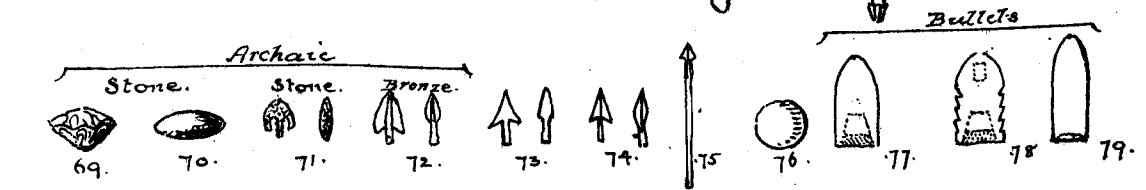
## II. Spear, & Partizan.



## III. Axe, & Halberd.

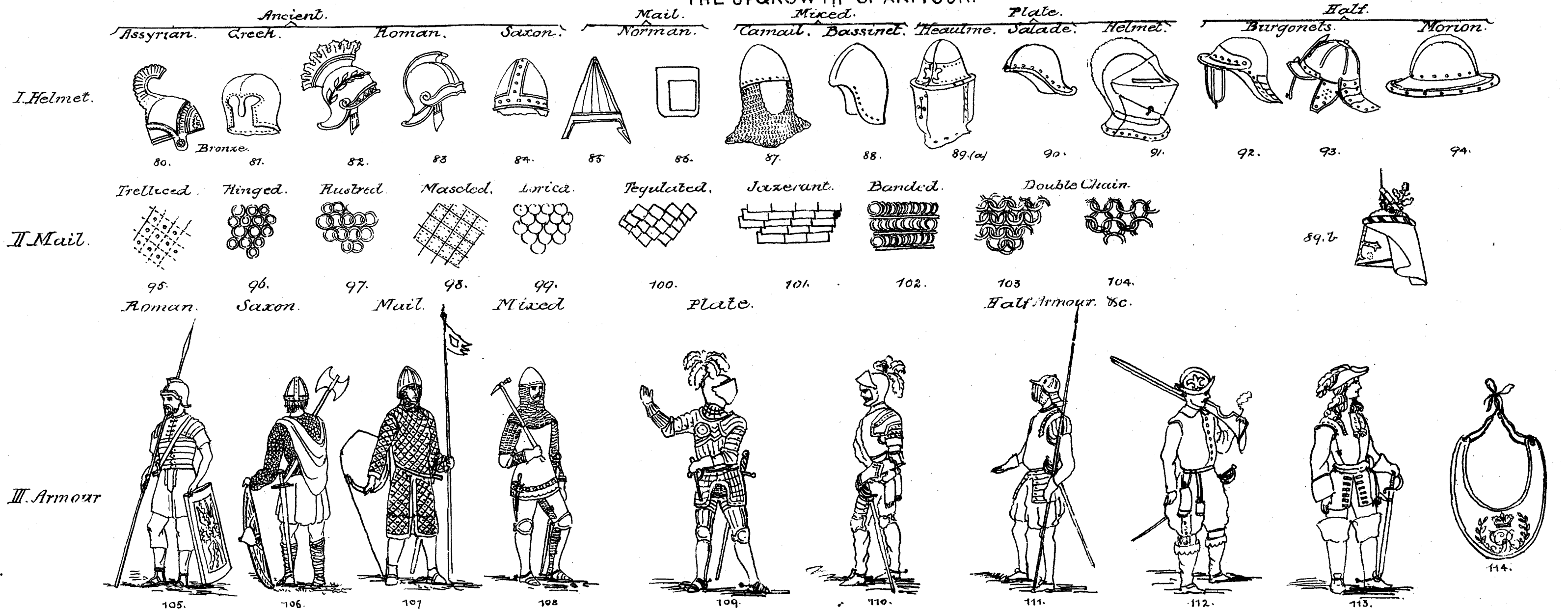


## IV. Missile.



(N.B. These Sketches are not to Scale.) *Clapnetting.*

# THE UPGROWTH OF ARMOUR.



Legionary. Temp. Harold II. Temp. William I. Edward III. A.D. 1540. (Italian) Knight (Charles I) Pikeman (Charles I) Arquebusier (Cromwell) Cavalier (James II) Gorget (Geo.)

## Details of Armour.

Head.....Helmet, Helm, Salade, Bassinet, Morion or Pot.  
 Neck.....Gorget.  
 Shoulders...Pauldrons.  
 Arms....(Upper) Brass arts; (Lower) Vambraces.  
 Elbows...Coudières.  
 Hands....Gauntlets.  
 Body....Hauberk, Cuirass or Corslet (Breast Plate & Back Piece).  
 Loins...(Front), Tasses; (Rear), Garde de Reins.  
 Thighs...Chausses or Cuisses. Knees...Poleyns or Genouillière.  
 Cloak...Kilts