

V.—NOTES ON THE DEFENSIVE ARMOUR OF MEDIEVAL
TIMES AND OF THE RENAISSANCE: ILLUSTRATED BY EXAMPLES FROM HIS OWN COLLECTION AND FROM THAT OF THE SOCIETY OF ANTIQUARIES IN THE CASTLE OF NEWCASTLE-UPON-TYNE; AND, FURTHER, BY DESCRIPTIONS AND DRAWINGS OF TYPICAL SPECIMENS IN LOCAL AND FOREIGN COLLECTIONS.

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The main object of these notes is to illustrate and determine, as far as I can, the defensive armour in my possession, most of which is now before you; and to describe in detail any armour in the district that I have had time and opportunity of examining, as well as several typical suits of various periods, among some of the most remarkable European collections. I cannot attempt to give any account of offensive weapons in these notes, as such would render them far too long and involved for my present purpose; but I am busy on a supplement dealing with weapons, covering the same period.

We owe the inception of much of the arms and armour of European countries to the ancient civilizations of Asia and Egypt, and much also to the Etrurians, Greeks, and Romans, but into such very far-off questions I cannot go in these notes. I will, however, preface the analysis of the suits I bring before you by a short and, I hope, concise sketch of medieval and renaissance armour in general. This, I trust, will be helpful in making my explanations clearer as regards nationality, fashion, and chronology. During the earlier periods, and, in fact, throughout the entire time covering the use of defensive armour to its decadence, great difficulties constantly arise regarding the precise antiquity and nationality of specimens preserved and consequently the fashions generally prevailing in a given country at a particular time. This uncertainty is greatly owing to immigra-

tion, invasions, and to the importation of both artificers and armour from the more advanced countries to others less forward in mechanical skill, as applied to armour making.

Some of the manuscripts, effigies, brasses, and illuminated missals preserved, afford great help in deciding doubtful points, but this kind of evidence practically goes no further back than the ninth century, besides being sometimes of a more or less fanciful and inaccurate character ; and it is only by closely weighing and comparing that some reasonable degree of certainty can be got at.

In brasses we have the best consecutive representation of armour extending from the Crusades to the reign of Charles II. There was formerly a brass in St. Paul's church, Bedford, of sir John Beauchamp (1208) ; this would have been the oldest brass known had it been preserved. The earliest extant is, however, of the reign of Edward I. It must be borne in mind that the date on ancient monuments is that of death, so that the armour indicated may be a quarter of a century earlier ; besides it may have been inherited by the defunct. Suits were also sometimes 'restored' by the armourer to correspond with a later fashion, and cases of this kind naturally give rise to some perplexity. Later in these notes will be found a chapter headed 'Details of Defensive Plate Armour.' This section deals as fully, as a reasonable regard for space will allow, with each important piece of armour, as regards its form, history and chronology. This section will serve also, to some extent, as a glossary of terms.

CHAIN-MAIL AND MIXED ARMOUR.

Remarkably little is known of Britain in the centuries immediately following the Roman occupation, and the question as to when real chain-mail was first used in Europe is both difficult and obscure. There is a representation of armour on the column of Trajan that looks remarkably like chain-mail, and it is almost certain that the Romans used iron chain-mail in Britain. The bronze scales of a lorica or Roman cuirass found at Aesica, which have been so deftly arranged by Mr. Gibson, the worthy custodian at the Castle, and which are now on exhibition at the Black Gate museum, do not help us,¹ but

¹ A similar fragment was found at Cataractonium (see *Archaeological Journal*, vol. iii. p. 296).

interlinked bronze rings, of Roman origin, have also been found; and if in bronze, why not in iron? This question is adequately answered by the masses of corroded iron rings of Roman times, found at Chester-le-Street, and referred to in a report of a meeting held by our Society as far back as 1856.² These rings could hardly be massed together, as they are, without having been interlinked. The extract from the report of this early meeting of the society runs thus:— ‘The Rev. Walker Featherstonhaugh had presented two pieces of chain armour, corroded into lumps, from Chester-le-Street.’ Similar masses of rings, of Roman date, have been found at South Shields, and may be seen in ‘The Blair Collection’ at the Black Gate museum. These are of a date certainly not later than the fourth century. We may then, I think, conclude that these masses of corroded iron rings were once loricas of iron chain-mail.

The Anglo-Saxon epic poem of Beowulf, written doubtless during the second half of the eighth century, has frequent reference to the hero’s arms and armour:—

Beowulf mæcelode	Beowulf spoke (or sang?)
On him byrne scán	He bore his polished byrnie
Searohet seowed	The war-net sewn
smiþes or-þancum	by the skill of the smith

This poem has been cited as proof that chain-mail was in use in early Saxon England, and by the Vikings also, and there is some supposed confirmation of this idea as regards the latter, in the finds of chain armour in the peat mosses of Denmark, which have been freely ascribed to the fifth and sixth centuries, but this mail is of such excellent workmanship and so similar to that made in the thirteenth century, as to cast grave doubts on the earlier dates. Every ring of the Danish mail is interlinked with four surrounding rings, and so on throughout the garment. This is the prevailing fashion of all periods and there is a great variety of mesh. I am inclined to think that the ‘war-nets’ alluded to were not chain-mail at all, but leathern or quilted armour with pieces of iron, shaped like the drawn meshes of a net, or steel rings sewn on to it, that this combination constituted the ‘bright byrnie’³ referred to in the poem, and that

² See *Proc. Soc. Antiq. Newc.* (o.s.) p. 155.

³ In old German ‘brunne.’

the chain-mail found at Vemose and other places was really thirteenth-century armour or thereabouts. Quite independent of other evidence, the line in the poem, 'the war-net sewn by the skill of the smith,' would point to the leathern or quilted tunic being fortified with rings or scales sewn on to the garment, and this was the general method up to and even beyond the time of William the Conqueror.

There are, however, other words in the poem referred to, such as 'hand-locen' (= hand-locked), and 'handum gebroden.' The latter might well read either twisted or embroidered with hands. These words may point to interlinked mail; so it clearly cannot be affirmed with any certainty that there were no instances of real chain-mail in use in Britain at this very early period after the Romans; but if there were any hauberks of the kind it would point to much greater continuity from the Roman occupation than our historians of those times have hitherto imagined.

The sizes of the links of chain-mail vary considerably, extending from one-sixth of an inch to an inch and three-quarters in diameter, and they were soldered, welded, or butted in the earlier times, and often rivetted in the later. Most of the earlier Oriental mail I have seen is rivetted. It is said that the art of wire drawing was discovered by Rudolph of Nuremburg in 1306. At all events its application at this time rendered chain-mail much cheaper and more generally used than when each ring was separately wrought. This discovery was probably only the revival of an ancient art. Very much was lost during the 'dark ages' which followed the disruption of the Roman empire, when so many landmarks were swept away; and the same kind of thing has happened often before in the cycles of 'dark ages' that preceded it. Much was preserved in Chronicles, as was also the case in the earlier periods of obliteration, when hieratic writings on stone, papyrus, or parchment restored so much to the newly-awakening times. Double-ringed mail is mentioned by some authorities, but I have never seen any, and think the indistinct drawings on manuscripts, brasses, or tapestry give rise to the idea—very small ringed mail might easily be taken for double; still many effigies show what looks very like double-ringed mail.⁴ The Anglo-

⁴ Where the rings are hammered flat a decidedly double appearance is given to the mail.

Danes of the eighth century adopted the Phrygian tunic, reinforced with steel rings, probably obtained through their intercourse with the Byzantine empire; and both Meyrick and Strutt agree that such a tunic was then in use. The paladins of Charlemagne wore an armour of strongly marked Roman characteristics, and according to the monk of St. Gall, the emperor's panoply consisted of helmet and cuirass of iron, with leg and arm armour.

The real coat of chain-mail was probably somewhat of a rarity in the tenth century, but that it was in general use by the greater knights late in the eleventh is clear from the testimony of the princess Anna Comnena, daughter of the emperor Alexius Comnenus, who says, in describing the body armour of the knights of the first crusade, 'it was made entirely of steel rings rivetted together.' She further remarks that this kind of armour was unknown at Byzantium up to the time of the first crusade. Mail armour is mentioned by a monk of Mairemontiers (*temp.* Louis VII., a contemporary of Stephen, 1137), in a description of the armament of Geoffrey of Normandy.⁵

The Bayeux tapestry, worked, there is little doubt, in the middle of the eleventh century, shows that the Conqueror's chivalry wore conical helms with the nose-guard and hood of mail for protecting the neck, shoulders, and part of the face. The tunics reached down over the thighs, with a slit in the middle of the skirt for convenience on horseback; and the mail on the arms came nearly to the elbows. The Norman knights had pear-shaped shields, with a point at the bottom, large enough to cover the body from the shoulders to the hips; some with a rough device; while the Saxon shields on the tapestry are round or oval, with a central boss. Maces are shown in the hands of some of the figures. With the exception of William himself, whose legs are encased in jambs, probably of leather, with reinforcing plates or rings, the limbs of his knights were simply swathed with thongs. Probably only the richer knights wore chain-mail, the majority having tunics of *cuir-bouilli*, strengthened by continuous rings sewn on to it, side by side or overlapping. Some also had the pieces of lozenge-shaped metal already mentioned, or scales fixed on to the leather. It is impossible to determine these details absolutely, as all the armour looks very much alike on the

⁵ Demmin.

tapestry in its present condition, and this is especially the case where rings were used ; and it is only by careful comparison with other contemporary evidence that any reasonable certainty can be assured. The knights wore no surcoats over their mail. The great seal of William the Conqueror shows him in a hauberk coming down to the knees, with short sleeves, and no leg armour. The Germans were probably before us in the general use of real chain-mail, for the epic poem of Gudrun, written in the tenth century, states how Herwig's clothes 'were stained with the rust of his hauberk.'

The panoply of the Conqueror's knights was very much the same during the century preceding his time, as shown in the illuminations of the 'Biblia Sacra,' a manuscript of the tenth century. Helms with rounded crowns were worn then ; and this is all confirmed by another MS. in the library at Stuttgart of the same period, the well-known 'Martyrologium.'

Defensive armour continued much the same during the reign of Rufus, whose seal shows him in a long-armed hauberk without gloves of mail, and a low conical helm with the nasal ; but in the reign of his successor, Henry I. (1100-1135), the reinforcing rings of the hauberk were sometimes oval and set on edgeways, 'rustred' mail as it was termed ; and this fashion became common in the next reign. The seal of Henry I. shows a conical cap without nasal, and that of Stephen a kite-shaped shield with a sharp point in the centre. The king wears a hauberk of scales sewn or rivetted on the gambeson. The nasal first appeared in England at the end of the tenth century, and the Bayeux tapestry shows it to have been common in the eleventh. Among the seals of the English kings that of Henry II. is the first to show the hood of mail. The hauberk of the Norman kings was in one piece from the neck. Under Richard I. the hauberk was somewhat lengthened and armorial bearings became general. A *plastron-de-fer* (breast-plate) was worn under the mail and sometimes over it. The sleeves of the hauberk were lengthened, and terminated in gloves of mail. The first seal of Richard Coeur-de-Lion shows the king on horseback in a hauberk of mail with a *plastron-de-fer* underneath. His shield, which is shaped like half a pear cut lengthwise and pointed at the bottom, is ensigned with a lion rampant. The arm is mail-clad to the finger tips and brandishes a

simple cross-handled sword; the chausses, separated from the tunic, are of mail, and terminate in a spurred solleret. Over the hood, which is in one piece with the hauberk, he carries a high conical helm without flaps or nasal, bound round with iron bars. On Richard's second seal he bears the great helm with a fan crest, ensigned with a lion; his hauberk is rather longer than in the first seal. The shield on this seal is ensigned with three lions *passant gardant*, and this is still retained on the royal escutcheon of England. There is a good example of an undoubted suit of chain-mail on an effigy of Robert de Vere (died 1221) in Hatfield Broad Oak church. This suit was probably made in the reign of king John. Heraldic bearings first became generally hereditary in the reign of Henry III. His seal shows the king with the fingers of his chain-mail gloves articulated, and wearing the great helm. In the Tower collection is a figure on horseback clad entirely in chain-mail. To the hood is attached a fillet of iron round the head. The hauberk has long arms terminating in gloves of mail. A leathern belt with strong iron clasps encircles the waist. Excepting the legs the horse is covered with leathern armour, fortified with iron scales. The armour on the figure is labelled 'Indian' and the horse 'Persian.' Since I saw the Tower mail I have examined many Indian and other Oriental tunics. Two at Carlsruhe are rivetted chain-mail—hood and tunic in one piece—but the head bears no fillet. On the breast, over nipples and navel, are three small palettes inscribed with oriental characters, and inscribed clasps at the waist to fasten the tunic. These suits are chiefly remarkable for the presence of the hood, and I should judge the date of the mail to be fourteenth century. There are two shirts of mail at Brancepeth castle, Durham, which are rivetted, and I think early fourteenth century. It was not uncommon for hauberks to be provided with reinforcements of leather thongs which were intertwined through the rings; there is an example of this kind in the Rotunda at Woolwich. An effigy of a knight in the Temple church, that of Geoffrey de Mandeville, earl of Essex (1144) in the reign of king Stephen, engraved by Stothard, shows the warrior armed completely in chain-mail, having hood of mail over the head and shoulders, surmounted by a cylindrical helmet without nasal. Tunic is in one piece with the arms and gloves, the last without any articulation; this form of gauntlet

is the earliest. Chausses going above the knee, in one web with the demi-poulaine or slightly-pointed sollerets, globular triangular shield extending from the shoulder to the hip, and the belt of knighthood above the hips. There is a singular point in connexion with this and two other effigies in the church, viz., that the sword is worn on the right side. I have noticed this peculiarity in other figures of the period. The figure of another Templar in the same church, that of William Longespée, earl of Salisbury (1200-1227), wears mail gloves, the fingers of which are all articulated—the sword is on the left side. Both figures wear surcoats. Like most of the helmets, early in the thirteenth century, this example is flat at the top. The tops were usually rounded in the second half of the century. A knight in Walkerne church, Hertfordshire, wears the great helm, rising slightly at the crest, pierced with eye-slits, and showing breathing holes over the mouth.

SUIT OF CHAIN-MAIL, ETC., IN THE CASTLE OF NEWCASTLE-UPON-TYNE.

The example of chain-mail in the library of the Castle here, which was presented to our society long ago by sir R. Ker Porter, is very interesting, though a somewhat perplexing piece of armour. I have been in great difficulty about it, because in its present condition it is short in the body, with the sleeves coming barely to the elbows. These features taken alone would point to its being simply a 'habergeon,' sufficiently described in a quotation from Chaucer later in these pages under the heading of 'Plate Armour;' but the jagged state of the extremities and general aspect of the mail led me to think that both sleeves and body had once been long; and the slit in the skirt for convenience on horseback confirmed me in this belief. I have now ascertained, beyond all doubt, that I was right in my supposition, and that the garment in question is really a mutilated hauberk, in one piece from the neck.

This mail is of the make already described, every hammered ring being interlinked with four others. The rings are soldered. The headgear is composite, consisting of an iron skull cap rudely engraved, with a camail or fringe of mail falling over the neck, shoulders, and part of the face, the helmet being provided with holes for attachment. The rings of the camail are much smaller

than those of which the tunic is composed, and give it somewhat of a double appearance. There is of course no trace of there having been any reinforcing plates, which when present were generally at this period attached to the mail by straps and buckles. It is

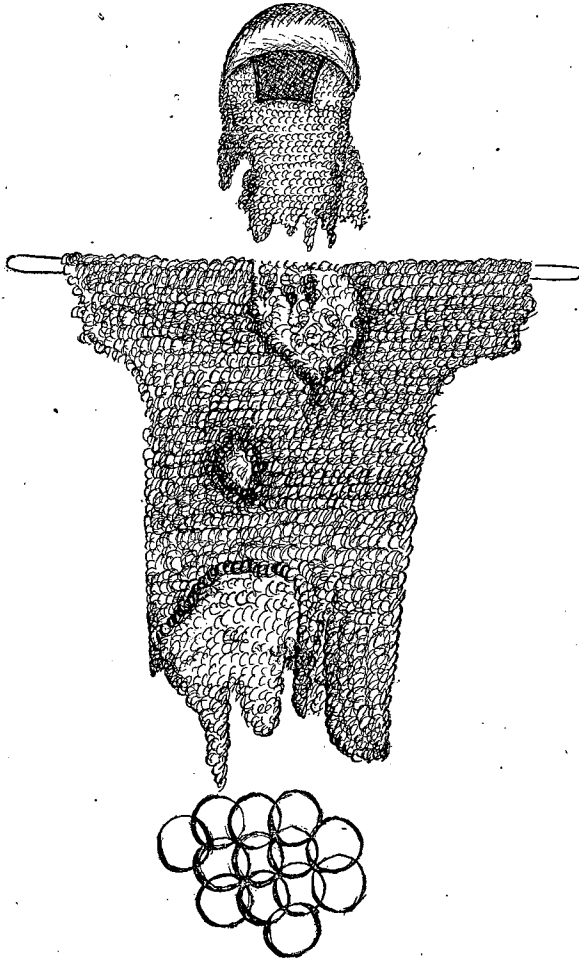


FIG. 1.—SUIT OF CHAIN MAIL IN THE CASTLE OF NEWCASTLE-UPON-TYNE, showing the actual mesh of the hauberk.

extremely difficult to fix an approximate date for the mail in its present condition, but taking the general characteristics of the head-gear into consideration, and assuming it to have formed one panoply

with the hauberk, I should be disposed to put it in the first half of the thirteenth century, in the reign of Henry III. The hood of mail separate from the hauberk does not appear before the beginning of the thirteenth century. The illustration (fig. 1) shows the hauberk in its present condition, the headgear, and actual mesh of the body armour.

A spirited drawing of a medieval water ewer of bronze is given in the *Archæologia Aethiana*, old series, vol. iv. p. 76, plate xxii. This ewer, which was found about four miles west of Hexham, represents a knight of the thirteenth century on horseback, wearing chain-mail, and over it a sleeveless chequered surcoat. The figure wears a flat-topped cylindrical helm.

The epoch of chain-mail armour pure and simple may be said to close about the reign of Edward I., although in more remote and less advanced countries, such as Ireland and Scandinavia, it was to be met with very much later. The surcoat is rare in the twelfth century, but it becomes common in the thirteenth and fourteenth. Among the seals of the kings of England this garment first appears on that of John. Chaucer, writing in the reign of Edward III., says :—

And over that a fin hauberk
Full strong it was of plate,
And over that his cote-armoure.

There is an admirable example of a thirteenth-century surcoat on the figure already referred to. The surcoat is long and sleeveless, with a slit in front. It is embellished by a chequered pattern in diagonal lines, interspersed with *fleurs de lis* and stars of six rays. The garment has an ornamental border. Sleeves rarely appear in England till the fifteenth century, but a local example, referred to in Surtees's *History of Durham* (vol. iii. p. 155) shows that there were earlier cases of surcoats with sleeves, as evidenced by the figure of an unknown knight in Norton church. There is also one in the Temple church, London. The character of the armour indicates a date towards the end of the thirteenth century. The surcoat early in the fourteenth century was long, but became gradually shortened and tightened. There are, however, earlier examples of the short surcoat as shown on the Whitworth effigy (plate xiv.). The garment was variously fastened, being buttoned, laced, or

buckled. On an effigy engraved by Hollis in his plate ii., it is held together by a *fibula*. The fabrics were rich and costly, and usually ornamented with heraldic devices. The surcoat of the fifteenth century presents such devices on the front and arms, both before and behind, indeed it was a 'tabard of arms,' and so it continued in the sixteenth century as a herald's tabard. During the first half of the fourteenth century, English knights wore a garment under the surcoat, called 'upper pourpoint'—the true 'pourpoint' was the surcoat itself.

It is impossible to go very much into detail in these notes, but some mention ought to be made of the 'mamelières.' These were circular plates on the surcoat, with rings affixed. Chains passed through the rings, one being usually attached to the sword and the other to the sheath. I am informed that there have been cases where one chain has been attached to the helmet.

Mamelières prevailed during the fourteenth century, more especially in the first half. Examples are rare. These plates are present on an effigy in Tewkesbury abbey church, the date of which is doubtless about the middle of the century. A beautiful instance may be seen on an effigy at Alvechurch, Worcestershire (1346), showing clearly the one chain connected with the scabbard and another with the hilt. There is a brass in Minster church, Isle of Sheppey, which represents an armed figure with only one 'mamelière;' it is on the left breast, with the chain going up over the left shoulder—early fourteenth century. The derivation of the word is interesting, being from *mamilla*, the breast. Its origin was a leather band worn by the Roman ladies to support the breasts.

We reach the highest point of medieval culture during the fourteenth century, and broadly the 'renaissance' towards its close. Like all periods of transition, it presents many points of interest, especially in armament. It was not before the middle of the century was reached that arms and armour approached to anything like uniformity. In the first moiety the greatest possible irregularity prevailed. Scale armour was still largely used throughout the century, and splint armour also, though to a less extent. An example of the latter may be seen on the effigy in Ash church.

A combination of mail and plate or white armour, the latter strapped on, was in general use in England late in the reign of

Edward the second, when the helm, cuirass, or rather breastplate, and gauntlets were all of plate, and sometimes the cuisse and jamb also ; but the leg armour was often of cuir-bouilli. Chaucer says : ' His jambeux were of cure-buly.' An inventory dated 1313 of the armour which belonged to Piers Gaveston, includes breast and back plates and two pairs of 'jammers' of iron ; but most of the monumental figures are still in chain-mail and genouillières. These 'jammers' were only front plates for strapping on. An effigy of sir William de Ryther, who died in 1308, shows genouillières of plate on a suit of chain-mail, with the hood covered by a bassinet. This was probably thirteenth-century armour, although somewhat early for an example of the bassinet.

Another effigy (in Bedale church, Yorkshire) of somewhat earlier date, that of Brian lord fitz Alan, wears genouillières over chain-mail. He died 1302. The most ancient brass we have, that of sir John D'Auberon, is similar in character—the figure wears a rounded hood. Mixed armour continued longer in use in England and Belgium than in Germany, which latter country always led the way in defensive armour.

An effigy in Hereford cathedral church of Humphrey de Bohun, earl of Hereford and constable of England (died 1321), engraved by Hollis, wears the camail which falls like a curtain over the shoulders, surmounted by a bassinet ; hauberk of mail to the knees ; rerebrace ; vambrace and gauntlets of plate, the fingers covered with laminated plates, genouillières, jamps with hinges, and very slightly pointed sollerets, all of steel, with roundels to protect the inside of the elbow. Here we have a good example of the transition to full plate armour, as attaching plates are now replaced by rounded ones, fitting round the limbs, but still strapped on. An inventory of the earl's effects, dated 1322, appears in the *Archaeological Journal*, vol. ii. p. 349. The bassinet is mentioned as being covered with leather. A figure, standing in the nave of the same cathedral, of sir Richard Pembridge, K.G., who died a year before the Black Prince, wears mixed armour—camail and bassinet with the great helm.

Both the rowel and goad spurs were in use throughout the fourteenth century. The figure of the Black Prince (1376) in Canterbury cathedral is clad almost entirely in plate, and shows the prince wear-

ing a conical bassinet with camail attached. Breastplate, épaulières, rerebrace, vambrace, coudières and leg armour, including gauntlets, all of plate—his great crested helm has a mantling or lambrequin and cap of maintenance, and is surmounted by a gilded leopard; besides the ocularium it has a number of holes on the right side in front in the form of a crown, for giving air. There are gadlings on the knuckles for the *mêlée*. The surcoat is quilted.

A brass in Wotton-under-Edge church, Gloucestersh., shows a figure in mixed armour of Thomas lord Berkeley, who died in 1417. The sollerets are à la poulaine, though not in the extreme, the gauntlets have articulated fingers and a sharp gadling (knob) over each knuckle. The figure wears a collar of mermaids, the family cognizance. We now get very near full plate armour on an effigy of sir Robert Harcourt, K.G., into Stanton Harcourt church, Oxfordshire. The figure wears a horizontally fluted bassinet; gorget of mail; coudières sharply pointed at the elbow; cuirass with lance rest; laminated taces; and long triangular tuilles (strapped half-way up); sollerets slightly laminated and pointed. There is a great crested helm with the figure. Sir Robert died in 1471, and the armour was probably made in the first half of the fifteenth century. This is a late example of the use of the mail gorget, but it probably covered a defence of plate. Several of these effigies and brasses have been engraved by Hollis.

It may profitably be mentioned again here that dates on monuments are those of demise. The armour, therefore, may be much earlier, perhaps a generation or so before the date of death, and it was common, nay usual, for a knight to bequeath his suit or suits to his sons or other persons. For instance Guy de Beauchamp, who died in 1316, bequeathed to his eldest son his best coat of mail, helmet, etc., and to his son John his second suit. Mixed armour in France went well into the fifteenth century.

Broadly speaking mixed armour was used in England during the last quarter of the thirteenth to the end of the fourteenth century, but nearly full white armour began to be seen there towards the end of that century. It had, however, been in vogue in Germany and Italy for some decades, and it is probable that the earlier suits in England were imported from Germany, which country set the fashion. The effigy of Gunther von Schwarzburg, king of the Romans (1349)

shows the body armour to have been of mail, with reinforcing plates for the arms and legs, on which blank and studded lengths are interspersed. He wears the bassinet with camail. The following examples will show to some extent the progress of the evolution in Belgium. A figure in the library at Ghent of Willem Wenemaer wears genouillières and jamba of plate, otherwise clad in mail (1325). This figure is remarkable for the sword being covered with a Latin inscription. A brass at Porte de Hal, Brussels, shows John and Gerard de Herre (1398) in mixed armour. On a brass in the cathedral at Bruges, dated 1452, Martin de Visch has a full armament of plate, excepting the gorget which is of mail.

This continuous strengthening of defensive armour was clearly rendered necessary by the ever increasing power and temper of weapons of attack. We have the same sort of thing to-day in the constant competition between armour and heavy guns.

The shoulder-pieces called 'ailettes' first appeared in France. They were in use in England late in the thirteenth century, but, as they fell into disuse in the fourteenth, there are not likely to be any actual examples preserved, and they very rarely occur on monuments. These pieces assume various shapes, but the usual one is a rectangular figure, longer than it is broad, standing over the shoulders horizontally, perpendicularly, or diagonally, rising either in front or from behind; there are, however, instances of their being round, pentagonal, and lozenge formed. The use of these curious appendages is not very apparent, but the most natural explanation is that they were applied as a defence against strokes glancing off the helmet. They were usually ensigned with a device or crest, and, when worn in front, were often large enough to protect the armpits instead of palettes or roundels. They are mentioned in the roll of purchases for the Windsor tournament in 1278. There is an interesting letter in our *Proceedings*, vol. iv. p. 268, concerning these somewhat puzzling pieces of armour. It is addressed to our valued colleague, Dr. Hodgkin, by Captain Orde Browne. The writer refers to the ailettes which he noticed on the effigy of Peter le Marechal in our cathedral church of St. Nicholas (fig. 2). This highly interesting figure lies immediately behind the monument to Dr. Bruce. Captain Orde Browne mentions examples of ailettes in the churches of

Ash, Clehongre, and Tew, and quotes two authorities that these three are the only churches in which effigies with these appendages have been found ; the names, however, of these authorities have not been



FIG. 2.—THE EFFIGY OF PETER LE MARECHAL IN ST. NICHOLAS'S CHURCH, NEWCASTLE-UPON-TYNE.

preserved in the letter. At all events the authorities in question had overlooked our local example, on whose shield there seems to be a bend. I refer to this effigy (fig. 2) as attributed to Peter le Marechal. Brand

believed it be the effigy of the founder of St. Margaret's chantry, Peter de Manley, a baron who bore, according to Guillim, *or*, a bend *sable*. He was associated with the bishop of Durham and others for guarding the East Marches, and died in 1383. His arms therefor correspond with those on the shield of the effigy. Mr. Longstaffe, however, ascribes the figure to Peter le Marechal who died in 1322.

As to the question between Peter de Manley and Peter le Marechal, I think there can be no doubt whatever, as the presence of ailettes and the general character of the armour undoubtedly date the figure about the end of the thirteenth century or very early in the fourteenth, and there is an interval of sixty-one years between the deaths of the two knights. Peter le Marechal was sword-bearer to Edward I. and is buried in St. Nicholas's church. It appears from the king's wardrobe account that a sword was placed on the body by the king's command. According to M. Viollet-le-Duc, this innovation, the employment of ailettes, dates from the end of the thirteenth century, but M. Victor Gay cites an example of the employment of ailettes in 1274. There is, however, one of a still earlier date occurring in a MS. dated 1262, in which is a figure of Georges de Niverlée. This manuscript does not say where this figure is or was. There is an ailette on the right shoulder only, and we may perhaps infer that this piece was first used singly. We see from the roll of purchases made for the tournament of Windsor park (1278) that the ailettes specified for were to be of leather and carda.⁶ Ailettes were worn by sir Roger de Trumpington in the Windsor tournament but these were of leather, and are figured on his monumental brass rising from behind the shoulders. An incised monumental slab in the church of St. Denis, Gotheim, Belgium, shows a figure of Nenkinus de Gotheim (1296) with these appendages. These are remarkable for their diagonal pose. If any device existed it has been worn off. There is another example of another Gotheim (1307), which is charged with a rose, and a couple in the Port de Hal museum at Brussels, dated 1318 and 1331 respectively. A very elaborate pair of ailettes appears in the inventory of Piers Gaveston (1313): 'les ailettes garniz et prettez de perles.' There is a German example on the statue of Rudolph von Hierstein at Bahl (died 1318).

⁶ A kind of cloth.



HELMS UP TO THE END OF THE TRANSITION PERIOD.

Helms with horns were worn by the Vikings, and in all probability the headpiece with these appendages, dredged up, with a shield, in the Thames, and now deposited in the British museum, is of early Scandinavian origin. Horned helms were probably originally emblematic of the goddess Hathor or Isis, and came to Northern Europe through the Greeks. We have an example of an Etruscan helm with horns, and Meyrick says that such were worn by the Phrygians, though rarely. Diodorus Siculus refers to this form as used by the Belgic Gauls. There are instances of helms with horns as late as the thirteenth century. The early Anglo-Saxons wore four-cornered helms with a fluted comb-like crest.

The great variety in medieval and renaissance headgear is somewhat bewildering, but it may all be brought down to a few types with certain salient characteristics, which, however, greatly interweave. The knights of chivalry or their armourers seem to have given as great a rein to their fancy and imagination as the constructors of feminine headgear of all time; still the change and application of weapons of attack played the most important part in the constant modifications of warlike head-pieces, as of other defensive armour.

I have referred in my sketch of the Castle example to the use of the shallow iron skull cap, or sort of rude chapel-de-fer without its broad brim, which, when worn with the camail, was provided with holes for attachment either directly or by laces. Staples were generally applied for this purpose with bassinets.

Both Normans and Anglo-Saxons used the word 'helm'⁷ (of Gothic or Scandinavian derivation) in the eleventh century, as applied to the conical steel cap with the nasal then in use. The equivalent in French was 'heaume.' The word 'helmet' is, of course, the diminutive of 'helm,' and was specially applied to the close-fitting casques, first used in the fifteenth century, of which more anon. The seal of Henry I. shows that monarch as wearing a conical helm.

The form of the helm of the Bayeux tapestry is a quadrilateral pyramid with a narrow strip of iron extending over the nose; but this nasal is but rarely met with after the twelfth century. The Norman helm was probably wholly of iron.

⁷ The words 'helm' and 'varhelm' appear repeatedly in the epic poem of Beowulf.

The great helm or heaume without a movable visor to meet the bevor is of English origin. It first appeared about the end of the twelfth century, and was worn over the hood of mail, which was then found inadequate to resist either the lance, or a heavy blow from a battleaxe or mace, or even a stroke from the greatly improved sword. The helm had the effect of distributing the force of the blow. The second seal of Richard I. shows him in the great helm. It is either flat-topped or conical, with the nasal, and obviously derived from the antique. There is an example of the conical form in the museum of Artillery at Paris, and one of the nearly flat-topped variety rising very slightly towards the centre, in the Tower of London. The next form, which is in great variety, the knight's early tilting helm, was used pre-eminently for jousting; the visored bassinet being worn generally in battle. It was introduced to resist the heavy lance charge. This form was hemispherical, conical, or cylindrical, with an aventail to cover the face, and an ocularium or slits for vision, and sometimes a guard for the back of the neck. It formed a single structure with bands of iron in front constituting a cross, very heavy, and in the earlier forms the head bore the whole weight;⁸ but later it was constructed to rest on the shoulders, and the cross bands disappeared. It was fastened to the saddle bow when not in use. The great helm is often represented as a pillow for the head in effigies. An excellent example may be seen on the male effigy in Whitworth churchyard, which is described in our *Proceedings*, vol. iv. p. 250. The illustration (plate xiv.) shows the two recumbent figures—male and female. We are concerned with the male effigy, and have the authority of Mr. Longstaffe that it represented a member of the family of Humez of Brancepeth. The character of the armour would indicate a date in the second quarter of the thirteenth century. The helm is cylindrical and flat-topped. Baron de Cosson mentions two other local effigies of about the same date, the one at Pittington, the helmet of which is round-topped, and the other at Chester-le-Street.

A very early thirteenth-century helm may be seen on an effigy in Staunton church, Nottingham, and a flat-topped cylindrical helm surmounts the figure on the curious water ewer shown in plate xxii. of *Archaeologia Aeliana*, vol. iv. (o.s.). There are instances of this form as early as the last quarter of the twelfth century.

⁸ See helm on an effigy in Staunton church, Nottingham, about 1216.



THE WHITWORTH EFFIGIES.

(From a photograph by Mr. A. L. Stevenson.)

De Cosson gives drawings of several of these helms in his admirable *résumé* of the specimens exhibited in 1880 (for which see *Proceedings* of the Royal Archaeological Institute). That on the seal of Henry III. has breathing holes, and that of Edward II. shows his helm to have been cylindrical, with grated aventail. The helm formerly hanging over the tomb of sir Richard Pembridge, K.G., in the nave of Hereford cathedral, and now in the possession of sir Noel Paton,⁹ is a good example of the reign of Edward III. The great jousting helm of the fifteenth century will be described later. The bassinet, lined with leather, bason-shaped as its name implies, was lighter and close-fitting; and in England usually provided with staples for a camail. It was often used under a crested helm of large size, but, as mentioned before, when the bassinet became visored it was worn heavier, and then largely superseded the great helm. The bassinet was generally worn in England in the fourteenth century and late in the preceding. This helmet is more fully described later.

The chapel-de-fer is an iron helmet of the twelfth century, with or without a broad brim. The one without brim is often termed a chapel-line, and is, I take it, the small bassinet.

PLATE ARMOUR.

It was late in the reign of Edward II. when comparatively rare instances of nearly complete plain armour appeared in England, but, as shown in the section of this paper headed 'Chain-mail,' etc., the use of the gorget of mail survived up to the beginning of the fifteenth century. It is in fact impossible to lay down any arbitrary dates, or anything like a clear line of demarcation in respect to the relative proportions of chain and plate armour used by the English knights up to the beginning of the fifteenth century, but the fortunate preservation in our churches of a series of effigies and monumental brasses helps us greatly; there is, however, very little evidence of this kind before the middle of the thirteenth century. Breastplates, as distinguished from the old plastrons-de-fer, were to be met with in the reign of Edward II., but the general rule was still a hauberk of

⁹ This helm was, I believe, given to sir S. Rush Meyrick by the dean, a flagrant instance of how such trust property was treated in his day.

mail, with épaulières, coudières of plate, with some splint plates on the arms, all fastened with straps and buckles; the legs were still generally encased in mail, with, of course, genouillères at the knees.

The long reign of Edward III. (1327-1377) saw great strides in the direction of full plate armour. The lance rest (a hook of iron for supporting the lance shaft) was introduced about 1360.

We find full plate armour in use in Germany and Italy earlier than in England. There is ample evidence of this, but we must be careful in sifting the testimony of old chronicles. In the 'Tristan and Isolde' MS., by Godfrey of Strasburg, of the second half of the thirteenth century, the German knights are represented in white armour, helms with the bevor attached to the cuirass, the upper part of the face open, jambs of plate and sollerets à la poulaine. These knights appear with horse armour. An Italian MS. refers to the year 1315 as remarkable for the introduction of full plate armour—'every knight wore helm, cuirass, gauntlets, cuisses and jambs all of iron.'

These statements, however, must not be taken as conclusive. On the contrary, they really represent what we consider to be a late stage of mixed armour. We have an Italian example figured in Hewitt (plate xxvii.), the statue of a knight in a church at Naples (1335). He wears a hauberk of mail, with roundels at the shoulders and elbows, rounded plates strapped over the upper arm and jambs of iron. The sollerets are in chain-mail.

The reason for the introduction of the cuirass proper was the exceeding weight of the hauberk of chain-mail, in conjunction with the heavy plates often rivetted on to it and the quilted gambeson, etc., underneath; and also by reason of the inefficient protection it afforded against the lance in full career, or strokes from the greatly improved and heavier swords, or blows from the deadly battle-axe; indeed, it often happened that a portion of the chain-mail itself was driven into a wound. It was, however, far from uncommon early in the fifteenth century for a hauberk of chain-mail to be worn under the cuirass. The gambeson is a quilted tunic, often worn in battle in early times without other armour, having been made tough enough to turn a sword stroke, but on the introduction of plate armour it was of quilted linen, fortified with rings under the

arms and breastplate. I saw a most interesting gambeson of the kind in the national museum at Munich, an example of late fourteenth century date, and I believe the only one surviving ; it covers the legs, and has mail over the knees. The underclothing varied greatly at the different periods, and there is often some confusion of terms among the Chroniclers regarding these garments. Chaucer calls the gambeson a 'haketon,' the habergeon or small hauberke in his day being a shirt of chain-mail, sometimes worn over plate armour. He says :—

Next his shirt an haketon
And over that an habergeon,
And over that a fin hauberke,
Full strong it was of plate.

A MS. of this period says that esquires were not allowed a sautoir (stirrup) to their saddles. The order had a distinct status, even to its costume.

Early representations of bards are very rare ; they probably originated in the twelfth century, when they were most likely of fortified leather. Wace says that the horse of William fitz-Osbert was housed in chain-mail at the battle of Hastings, but this is incredible.

As already mentioned, German knights appear with bards in the second half of the thirteenth century, but it was towards its close, or at the beginning of the fourteenth, that it became common. The earliest official mention occurs in the statute of 27 Edward I., when housings were of chain-mail, leather, or quilted material. Nothing like a full equipment in steel plate for horses was attained before the second quarter of the fifteenth century, when according to a picture in the imperial arsenal at Vienna, 'Der Ritter sitzt auf seinem, bis auf die Hufe, verdeckten Hengst.' The material of the harness differs very much in the fifteenth century, being of full plate, fortified mail, quilted cloth, or cuir-bouilli.

Bards comprised the chamfron or chanfrein for the face, worn sometimes with a crest ; picière, breast ; flanchière, flanks ; croupière, hinder parts ; estivals, legs. The crinet, neck, appears first in England on the seal of Henry V. The horses were gaily caparisoned.

Broadly we reach the period of full plain body armour in England

early in the fifteenth century, when bevor and gorget or mentonnière, palettes, cuirass, taces and tuilles, garde de reine, épaulières, coudières, rerebrace, vambrace and gauntlets, cuisse, genouillières, jamps and sollerets were all of plate. The ingenious application of overlapping or lobster-tail plates, first applied to the solleret and rerebrace, had now extended to the shoulder and taces, and we find this system fuller developed in the fine ridged and scalloped armour, which originated in Germany late in the second quarter of the fifteenth century. The shell or tile-formed tuilles, after having been in use for nearly a century, gave place to tassets of overlapping plates. New tactics in battle had to be parried by the armourer with changes and modifications in armour, for instance at the battle of Crécy the knights fought for the first time in foot formation. This innovation in tactics having been copied by the French, the armourer had to meet the occasion, and different harnesses began to be made for foot-fighting and horse-back ; and somewhat later additional pieces were added to screw on to the other armour, for further protection in tilting and in battle. These pieces were devised for the protection of the most vulnerable places, on the principle that energy always takes the line of the least resistance. The great helm was now rarely used, giving place to the visored bassinet, the visor to be raised or lowered at pleasure. The bassinet was in its turn superseded by the sallad in the middle of the fifteenth century, and the latter towards its close by the armet. A monument in the cathedral at Posen gives a good idea of the armour in use in Germany in the first half of the fifteenth century—it is a figure of Lucas de Corta who died in 1475. The armament consists of the great helm with mentonnière of several laminated plates to be raised or lowered, cuirass with palettes, taces of six overlapping plates, going right across the lower body, but no tuilles, cuisse with genouillières and hinged jamps ; laminated rerebraces, and large pointed coudières. The fingers of the gauntlets are articulated, with a sharp gadling over each knuckle and sollerets à la poulaine. A brass in the church at Altenberg gives a figure of Gerart, duke of Gulich, who died in 1475, with a similar armament excepting that he wears an early form of armet ; and tuilles are attached to the taces. The armour of this period, with its pretty shell-like ridgings, is both graceful and practical, and also lithe and supple.

The armour of the second half of the fifteenth century is by far the most graceful of all the periods, combining beauty of form and contour with excellence of material and workmanship, together with an admirable adaptability for defence against the then existing weapons of attack. The main features of this remarkable period are the escalated and shell-like form of some of the pieces. The *coudières* are excessively large, and channelled with a view to the lance glancing off them. *Sollerets* are à la *poulaine*; and the *tuille* is present. The helmet of this armour was the *sallad* with the *mentonnière*. An excellent English example may be seen on the brass of sir Robert Staunton at Castle Donnington (1458). There is a very instructive series of monumental effigies at Meissen, engraved by Hollis, of successive dukes of Saxony, showing the continuous advances in armour. Albert, who died in 1500, wears the *armet*, *pauldrons* with *passegardes*,¹⁰ and broad laminated *sollerets*. Another duke, who died seventeen years later, shows *tassets* of five lames, and 'bear-paw' *sollerets*. Duke Frederick, who died in 1539, shows mitten gauntlets of numerous narrow lames. Scale armour is but very rarely found in the fifteenth century.

Monograms are not often to be found on armour of English make, but they were common in Germany towards the end of the fifteenth century, when armour was occasionally inscribed with the year. The comparatively few instances of dated armour are intensely valuable, as we have then no inferences or doubtful ancestral legends, but the actual year of make. There is an idea I find generally prevailing that the stature of the men of the middle ages was shorter than now-a-days. After comparing many suits, both at home and abroad, I have come to the conclusion that this is not the case, but certainly the calf development is greater now. I could not fit my leg into any of the *jambes*.

From this time, end of fifteenth century, the changes were greatly matters of detail, the differences in suits being principally differences of form. *Épaulières* developed into *pauldrons*, which gradually increased in size, covering both shoulders and upper-arm, and at length extending over each breast, and then diminishing again in size. *Passegardes* were introduced to protect the neck from pike thrusts. There

¹⁰ *Passegardes* will be referred to fully under the section 'Maximilian Armour.'

are instances of them as early as the middle of the century. Sometimes they are double on each shoulder—see the brass at Qui, Cambridgeshire. At the beginning of the sixteenth century, or a few years earlier, the so-called ‘Milanese’ Maximilian armour superseded that termed ‘Gothic’ by the Germans—this armour (the Maximilian) was fluted everywhere except the jambs; pauldrons, with passegardes, and great ‘bear-paw’ or ‘cow-mouth’ sollerets. This style became *à la mode* in imitation of the prevailing fashion in dress, which was then largely puffed. The cuirass is shorter, globose, and the top cut straight. The head-piece was the armet. Sliding rivets (Almayne) gave increased elasticity to armour of this period.

It was soon found that arms of attack would not glance so well off the fluted suits, and smooth armour was again reverted to. Perhaps the only brass that is to be seen in Spain is a beautiful specimen of inlaid armour; the figure is of Don Parafan, duke of Alcola, who died in 1571. The passegarde has ceased, pauldrons extend almost over each breast, sollerets are the shape of the foot, and he wears a morion. The morion and cabasset were late sixteenth and seventeenth century helmets, while armets and burgonets were worn in the sixteenth.

By the end of the fifteenth century heavy tilting suits had attained their greatest strength, and as the sixteenth century advanced so did ornamentation. Under the emperor Maximilian skirts or petticoats of plate began to be worn—another illustration of the influence exercised on armour by the prevailing fashion in dress. These skirts were called bases or lamboys. There is an example in the Tower of London in a suit, I believe, presented to our Henry VIII. by Maximilian, and another on the Hertford tomb (1568). Horse armour had become highly decorated. Towards the end of this century, defensive armour had reached its highest point of development. Tassets gradually became lowered to cover the knee in a series of lobster shell plates. Jambs and sollerets were at length laid aside in favour of jack boots, and plate armour fell gradually into disuse, mainly owing to the new tactics rendered necessary by the general use of firearms and the growing desirability of lightly-armed squadrons and companies. There is almost nothing of plate armour of the fourteenth century remaining and but little of the fifteenth.

Now that the period of full white or plain armour has been roughly covered, I will, as already foreshadowed, follow the evolution of each important piece to its decadence, when hand-to-hand combats were rarer, and strategy in masses more developed; as the proud knight had at length become of minor importance as against the organized infantry which was now the strength of the battle; and when the use of various offensive weapons, especially the arquebus, became general. I have endeavoured to show the great influence exercised on defensive armour by the prevailing fashion in dress, by which some important pieces were sometimes rather weakened than otherwise. This mode of treating the subject will, I think, be clearer than any attempt made at elaborate contemporary classification as a whole. The suits before you and representative suits from local and foreign collections will be taken more or less in detail, thus showing the combinations of the various periods they represent; leaving a separate section for tilting suits, extra tilting pieces, and the tournament generally.

In speaking of English armour, it must always be remembered that even up to the time of Henry VIII. and the Field of the Cloth of Gold, this monarch and his predecessor, imported principally through the agency of Jews, or received in presents, numerous suits of armour, both for foot and horseback, from other countries, and notably from Germany; indeed, the trade in harnesses and arms formed a not inconsiderable item in the importations of the Hanseatic League. Not only was armour imported, but foreign smiths and artificers, principally of German nationality, known as *Almaine* armourers, were introduced. Exportation from England was not allowed without royal licence.

While gratefully acknowledging much information and infinite assistance from standard works, I have found many manifest errors, which have been both inherited and perpetuated, handed down, so to speak, through long generations of bookmaking. I have taken as little from books as possible, but have endeavoured by visiting many important collections, both at home and abroad, to compare, as far as I could, the types of fashion prevailing at the different periods, which, however, interweave among European nations, from the causes already referred to. The almost constant warfare, both in Germany and

Italy, during the middle ages naturally made the manufacture of armour more of a speciality in these countries than in England, and the effect of the Italian renaissance was especially seen in profuse and artistic ornamentation, which became at length more to be regarded even than strength itself—it was, in fact, a fine art. Much of the armour was covered with embossed figures, engraved, chased, and damascened with gold. The work of the Augsburg, Nuremburg, and Innsbruck armourers was nearly, if not quite, equal, both in design and workmanship, to that of Italy, and many historic suits until recently classed as Italian have been proved to be of German workmanship.

THE TOURNAMENT.

The word is derived from the French 'tournoyer,' to wheel round. Tournaments were first instituted as a training school for the practice of arms. Jousts or justs of peace (*hastiludia pacifica*) were single combats on horseback, and practised generally, especially in the earlier times, with blunted lances, for a prize or trial of skill, while the tourney was troop against troop. The sword was blunt and pointless, being often of whalebone covered with leather and silvered over. The length of the lance was about fourteen feet, the shaft being of ash. An ordinance of the thirteenth century provides that the lance should be blunted, but this being systematically evaded, another ordinance in the century following required the lance head to be in the form of a coronal. An early example of the coronal may be found in the *Journal of the Archaeological Association*, vol. iv. p. 272. The courses to be run were generally three in number. 'Joustes à outrance' were to the death. They had their birth in Germany, in which country 'tilting' and 'passages of arms' prevailed as early as the ninth century; indeed, there was an important tournament at Strasburg in the year 842.¹¹ These warlike games, in spite of all precautions, were often attended with great loss of life, and as many as sixty knights have been put *hors de combat* at one passage of arms. They were always popular in France, and held there on a large scale. An excellent description of the arms and armour employed may be found in the *Tourney Book* of

¹¹ Nithard.

King René d'Anjou: The first regular tournament in England, as far as I have been able to ascertain, was held very early in the reign of Henry II., but its consequences were of such a nature as to induce that monarch, at the pressing instance of the priesthood, to forbid these games. So great, however, was their popularity that they continued to be held in spite of the king's fiat, but it was not before the reign of his heroic son that they became common, and were then kept in strict bounds by royal ordinances. Henry III. charges his subjects that they offend not by tourneying, and even as late as 1299 edicts were issued against the games. There were only five authorized centres for lists in England, and these were all south of the Trent. Tournaments in the northern counties required a special licence. Earls competing were obliged to pay twenty marks to the king, barons ten marks, and knights two to four marks, according to estates. Pluvinel, who wrote at the close of the reign of James I., says :—'There ought to be at each end of the lists a little scaffold, the height of the stirrup on which two or three persons can stand, viz., the knight, the armourer to arm him and his assistant, and hence he mounts his steed.' Froissart, who wrote towards the end of the fourteenth century, gives a graphic account of the tournament in his day. Judicial combats were common throughout the century.

I must confess to a lively partiality for sir Walter Scott's history, in spite of his facile imagination, and I think the graphic picture of 'The Gentle and Joyous Passage of Arms' at Ashby-de-la Zouche, with 'La Royne de la Beaulté et des Amours' gives as delightful an account of a tournament in the times of Richard Coeur de Lion, as needs be wished for. The gallant knights are distinguished by their belts and gilded spurs.

The knights are dust,
And their good swords are rust,
Their souls are with the saints, we trust.

Two grades of knights were instituted somewhat later—the banneret and the bachelor. The retinue of the former consisted of a minimum following of fifty men-at-arms, and the banneret had his banner as well as pennon. In the specification for arms and armour for the tournament of Windsor park (1278) we see what each suit

consisted of, viz., 'one coat of fence, one surcoat, one pair of ailettes, two crests (one for the horse), one shield (heraldically ensigned), one helm of leather (gilded or silvered), and one sword made of whale-bone.' The cost of each armament varied in price from about ten to thirty shillings. The shields were of wood, costing fivepence each. The total cost of the combined 38 armaments was about £80. Hewitt, in vol. iii. p. 509, refers to an elaborate treatise on tilting, written in the reign of the emperor Maximilian I., to distinguish the various modes 'where we have the Italian joust, the German joust, the joute à la haute barde, the joute au harnois de jambe, the course italienne, the course appelée,' etc., and there was the round-table game, etc. Tournaments had long ceased to be mere war games, but soon became even more dangerous than the battlefield.

Tilting continued in unabated vigour through the middle ages and the renaissance, and until the general use of firearms rendered such exercises no longer desirable.

The necessary limits of this paper will not admit of any detailed description of the many and curious rules, usages, and limitations, which were absolutely necessary for carrying on these dangerous games without great and unnecessary bloodshed and the loss of many valuable lives. Tournaments and tilting generally, were, however, rendered less dangerous than might have been expected by the addition of reinforcing armour, which pieces were screwed on over the more vulnerable places, mainly on the left side which received most of the blows; indeed, these extra pieces constituted a double-defence of iron, for the head, chest, and left shoulders. This was obviously necessary, when one considers the terrible impact of the lance in full career with the breastplate or helmet. These extra tilting pieces made their appearance in the reign of Edward IV.; the garde-de-bras was also added in his reign. It was early when suits of armour were made differently for battle and for tournaments, as William lord Bergavenny bequeathed to his son 'the best sword and harness for justs of peace and that which belong to war.'

Late in the fifteenth century there were complete tilting harnesses of such immense weight that a knight once unhorsed lay on the ground absolutely helpless, and often could not rise without assistance. His movements when on horseback were very restricted. These suits

were of such resisting power as to give practical immunity to the wearers so far as wounds were concerned ; they were far too heavy to be used in the *mêlée*, as being hurled from the saddle in such an armament was dangerous to life itself. A tilting harness with the Nuremburg mark, in the splendid collection at that city, is of immense weight and strength, and the example is specially valuable, as the date 1498 is inscribed on the cuirass. It has a volant-piece with placcat or grande-garde, garde-de-bras for the lower arm and gauntlet in one piece, large spiked roundels (indicating exactly the period), lance rest, abdominal pieces and an extra heavy piece to protect the leg in collision with the barriers of the lists, taces, garde-de-cuisse, very heavy and solid, all attachable by screw and nut, great helm with horizontal bars. The tassets are laminated in this suit, and solid in another alongside of it. These harnesses are very easily recognizable by their great weight and thickness, and especially by the ponderous lance rest. The breastplate is flat on the right side to make room for it. The lower portion of this heavy armour was often fastened to the saddle. The pieces were fastened together by very strong screws. The knight could barely move in the saddle, and could only guide his horse and aim his lance. There is an account of a tournament held in the reign of Henry VIII. in the tournament roll preserved in the Heralds' college. The challengers (Les Tenantz), among whom was the king, numbered four. The challenged (Les Venantz) were nine in number.

There is an instructive series of reinforcing pieces for the tournament in the national museum at Munich. These belong to a splendid suit that was worn by the prince bishop of Salzburg (Wolf Dietrich von Raitenau), which will be described later. The pieces are for man and horse, the former were to screw on to the ordinary armour, to protect the body from the lance charge. The grande-garde, which is the placcat, protects breast and left shoulder ; while the large vamplate of the lance shields the right side. The earliest form was simply a small roundel for the hand. The large vamplate was introduced in the fourteenth century. The heavy volant-piece is to screw on in front of the helmet—holes for vision exist on the right side only. The garde-de-bras is an additional protection for the left arm to the elbow-piece, to which it is fastened by a screw ; and the garde-de-

cuisse renders the upper leg absolutely invulnerable. The cabasset with the suit is a light helmet without flaps. The chanfrein, the steel mask for the horse's face, is strong and heavy. A projection called the queue, screwed on to the back plate, supports the butt-end of the lance. The suit and all the pieces are richly inlaid with gold, with the bishop's arms engraved on the breastplate. A representation and further description of this beautiful harness will be found later in these pages. There is a suit very similar in form and details of the pieces, in the Töihus, Copenhagen; but the ornamentation is much bolder, having the thistle as its theme throughout. It is of French make. As in the Alwick suit, the cuisses are in two parts, one being detachable; and if I remember rightly the taces bear evidence of missing detachable portions. An interesting feature of this suit is that the lance rest is so adapted as to be capable of being either raised or lowered.

DETAILS OF DEFENSIVE PLATE ARMOUR.—THE GREAT HELM.

The real great helm dates from the last quarter of the thirteenth century, but was rarely seen except in tournaments after the fourteenth century. It has been described in a previous section. It was replaced for fighting purposes by the visored bassinet, the movable aventail being added about the reign of Edward II.

The great jousting helm of the fifteenth century was made wide, very strong, heavy and large, and generally had an aperture on the left side, as in their career the knights passed each other on that side. It was crested, and rested on the shoulders, being attached to the body armour by screws front and rear. Many were very fantastic in shape. The top is flatter, and ocularium wider, than in the older forms. It fitted close to the scalp. The plates meet sharply in front, producing a ridge, the higher end forming a beak-like projection. It fell into disuse during the reign of Henry VIII.

THE BASSINET.

This helmet was round or conical, with a pointed apex. The large bassinet of the thirteenth and fourteenth centuries was very similar in all the countries of chivalry. It fitted close to the head, and was covered by the great helm in tilting. Before the visor appeared it was often fitted with a detachable nasal. As soon as the

helm became visored, say in the first half of the fourteenth century (see an example in Alvechurch, Worcester) it assumed a great variety of form, and often projected to a point like a beak. Other forms were concave, convex, and angular. Most of these forms may be seen in Stothard. There was also the small bassinet or cervelière, sometimes called cerebrierium. It was sometimes worn under the hood, with a small quilted cap next the head. In the reign of Henry V., the bassinet became more like the sallad. The effigy of the Black Prince shows how the camail was attached to the bassinet by a silken lace through staples.

THE SALLAD.

Visored sallads with a peak behind and slits for vision appear in the reign of Henry VI. The form is a low obtuse oval, ridged in the middle—it was never used as an under helmet. It was generally associated with armour of the second half of the fifteenth century, and always used with the mentonnière. The distinguishing feature is the neck guard, which rests between the shoulders. It was worn at an angle so that the ocularium came in the direct line of vision, and had often a movable visor. An example of the time of the Roses hangs in St. Mary's hall, Coventry. The earliest example of this form of helmet in England, that I know of, may be seen on a brass of sir Robert Staunton, at Castle Donnington, Leicestershire, who died in 1458.

CASQUETELLE.

A small helmet without bevor or visor, with a projecting umbril and flexible plate to protect the neck—the term is often applied to the part of an armet or close helmet going round the head.

ARMET AND CLOSE HELMET.

This is the most perfect form of helmet and the most familiar, so much so indeed as to render any description almost unnecessary. Its form is globular with a guard for the back of the neck, and in front round the chin is the bevor. This space between this piece and the rim of the casquetelle is filled in by a movable visor, which is pierced with narrow openings for vision and air. It thus consists of three pieces—the skull piece, the visor, and the bevor—the visor was either

in one piece or two. English armets date from the last decade of the fifteenth century, perhaps a little later. They were to be met with in Germany as early as the middle of that century. It is impossible to make much distinction between the armet and close helmet, which latter was the improved armet of the sixteenth century. Camails were sometimes used with the earliest form of armet.

BURGONET.

This is a helmet of the sixteenth century with a hollow ledge at the bottom, which fitted into the corresponding part of the gorget. It was made in close imitation of the head, and in either three or four parts. It is in fact a conical cap, with a laminated neckpiece and oreillettes. This helmet was designed to meet a defect in the armet, for there was a weak place, where the casque came in contact with the body armour.

MORION, CABASSET, AND CASQUE.

The morion first appeared in England in the reign of Henry VI. It was introduced into Europe by the Spaniards, who got the design from the Moors. It is an oval helmet, and has a large comb-like crest and almost semicircular brim, peaked at both ends. The cabasset is a helmet similar in character to the morion ; it is sometimes with and sometimes without back and front peaks and oreillettes or ear flaps of steel. Both varieties were worn for foot fighting, and are often lighter than earlier helmets, and usually richly engraved. The baron de Cosson says* that "the cabasset first appears in an ordonnance of Francis I., who orders that men at arms wear the armet, light horse the sallad, and 'les arquebusiers seulement le cabasset pour viser mieux et avoir la tête plus délivre.' The cabasset did not impede the aim, and was therefore the proper head piece of the musketeer." Casques are open helmets like the others, and of classical design.

GORGET AND MENTONNIÈRE OR BAVIER (BEVOR).

The mentonnière was used specially with the sallad—it fastens on to the breastplate by a staple and cusped catch. The upper portion, to cover the mouth and chin, is of laminated plates, which

* *Helmets and Mail*, p. 84.

move up and down at pleasure, but always from below. This piece is generally omitted in effigies, for obvious reasons, but there is an example on a brass already referred to at Qui, Cambridgeshire, of a date near the middle of the fifteenth century. The actual piece is of course to be seen on almost any suit of the period. A necklace of mail, called a standard of mail, was often worn over the plate at the neck at this period. Its object seems to have been to prevent the penetration of a lance.

The gorget, first of mail or scale work, and later of plate, is the piece for the neck, going all round towards the shoulders and closing with sliding rivets. This piece prevailed up to the decadence and after.

THE CUIRASS.

The cuirass consists of breastplate and backplate, which are usually fastened together by straps and buckles, but they are sometimes fastened by screws, especially for the tournament. It was probably introduced into England in the reign of Henry V., and its form is an excellent guide as to date. The word itself, or rather its prototype, 'quirettæ,' occurs in a roll of purchases preserved in the Tower of London (1278). The armour for the breast was considered next in importance to that for the head, and inventories of the fifteenth century frequently refer to 'pairs of plates, large, globose,' which sufficiently indicate the period. The breastplate of the fourteenth century was without the salient ridge in front called the tapul. My friend the rev. T. N. Roberts, vicar of Cornforth, co. Durham, to whom I am indebted for several hints, reminds me that it is difficult to say whether it is correct to speak of the fourteenth century breastplate as a cuirass or not. In effigies, brasses and illuminations this part of the armour is always concealed by the jupon. When the jupon disappeared (*temp.* Henry V.) the breastplate is revealed always in two pieces; afterwards (*temp.* Edward IV.) in only one piece, as a true cuirass. Baron de Cosson says that on a monument in Ash church, Kent (dating about 1335), the lacing of the surcoat at the side permits the body defences to be seen, 'rectangular plates like tiles rivetted into a flexible garment.' He also says that the only remains of an actual cuirass of fourteenth century date were found at the castle

of Tannenberg. The figure of St. George in the cathedral square at Prague has a flexible garment covered with very small rectangular plates like tiles, and over this a breastplate—not a complete cuirass. All this leads one to suppose that fourteenth-century breastplates were not cuirasses so much as additional plates of various shapes over the hauberk, the skirts of which always appear below the jupon on effigies, etc., of the fourteenth century. The *tapul* first appeared in the fifteenth century—this ridge after being discontinued reappears later, when it often swelled out to a hump, either over or below the navel. This indeed was a decided feature of the second half of the sixteenth century, when it had often one overlapping plate under the arm. Occasionally it was provided with transverse bars, forming a cross. The German type is very beautiful, and is usually in three plates, the second rising to a point in the middle of the breast, and the third running nearly parallel with it and converging to a point below it. At the top of the breast is a socket for attachment to the *mentonnière* by a cusp-headed bolt. The English form of the fifteenth century is usually in two plates, as in the Redmarshal and Downes effigies.

The lance rest is on the right breast, and on the left are screw holes for the tilting *placcate* or *grande-garde* when this is used. The Maximilian form, which followed the Gothic, is sometimes in one piece with the *taces* and more globular in character. In the sixteenth century the cuirass is lower and flatter, and cut straight at the top, with the *tapul* already mentioned. It is also provided with a ridge along the top and armholes for turning a stroke, and has often a single lamination round the arm holes. In the seventeenth century the breastplate becomes very flat and very short.

ÉPAULIÈRES AND PAULDRONS.

It is not easy to follow the development of *épaulières* in the earlier stages, as the shoulders on monumental effigies about the middle of the fourteenth century are usually draped by the surcoat, but the principle of laminated or overlapping plates, so early applied to *sollerets*, was not long in being extended to the upper arm and shoulder, where special mobility for striking and parrying was so

needful, indeed we have instances of articulated épaulières before the close of that period. These pieces, at their highest development, were admirably adapted for giving great freedom to the arm. Plates over the shoulders, as distinctive from ailettes, first appeared in England very early in the fourteenth century, but they were merely roundels or discs. Articulations, as already mentioned, came a little later. A brass of a knight of the Cuttes family in Arkesdon church, Essex (1440), is a good example of what may be termed the development of épaulières into pauldrons. Passe-gardes, generally applied to 'Maximilian' armour, are really to be found occasionally much earlier, as an example in Southerly church (1479) shows.¹² The Beauchamp brass figure at Warwick (1439) shows the passe-garde, but the general character of the armour indicates a later date of make. Pauldrons were attached to the gorget or cuirass by straps and buckles, and consisted of shoulder plates in successive lames over the shoulders and upper arm. In armour of the second half of the fifteenth century the upper plate scarcely reached beyond the shoulder, while in 'Maximilian' and later armour, they came well over the chest, assuming a resting-wing-like form before and behind. They were sometimes very large and uneven in size, that for the right arm being the smaller, for using the lance. There are instances in the sixteenth century where gorget and pauldrons are joined together in one piece. This is the case in armour called 'allectret.' In the second half of the sixteenth century pauldrons were often smaller and wingless.

PALETTES, ROUNDELS, OR DISCS

were plates attached to the armour, variously applied for the shoulders or any weak places, later specially to defend the armpits, and leave the arms free to parry or strike. They appear very early and may be seen freely and beautifully applied on a figure in Alvechurch, Worcestershire, of the earlier half of the fourteenth century. They vary very much in size, and in armour of the next century were very handsome, being ridged throughout, with scalloped flutings, and often charged with a heraldic rose, and sometimes spiked in the centre. They became very large in tilting suits, little short of a foot in diameter. The earliest application of these discs was to the elbow guard.

¹² Hewitt

REREBRACE, COUDIÈRES, AND VAMBRACE.

These pieces are the armguards—the rerebrace for the upper arm, and vambrace for the lower—they first appear in plate in the second quarter of the fourteenth century, and this became general a quarter of a century later. The coudières, for the elbows, first appeared early in the thirteenth century, about the same time as genouillières for the knees : and these pieces exhibit the earliest application of plate to body armour. Both may be seen on an effigy of William Longespée the younger (1233) in Salisbury cathedral. The coudières are elementary in the early stages, with roundel, then cup-formed and laminated both above and below the elbow with shell-like side expansions to protect the inner bend of the arm, and later going all round the elbow joint. This was the completed form, but all these improvements did not come at once. The De Bohun effigy exhibits the second mentioned form. The outer guard assumes many forms, fan-shaped, bivalve, escalloped, etc. The rerebrace and vambrace do not appear in England before the fourteenth century. The effigy of the Black Prince at Canterbury exhibits these pieces. The garde-de-bras, an additional protection for the left arm for tilting, attachable to the elbow plate by a screw, was introduced in the fifteenth century.

GAUNTLETS.

The earliest form after chain-mail was of cuir-bouilli, both plain and fortified with scale work, and such largely prevailed in the thirteenth century. The earliest form of plate gauntlets occurs in the middle of the fourteenth century, and had articulated fingers ; after which mitten gauntlets of laminated plates, with a separate thumb guard and peaked cuffs, prevailed. Early in the fifteenth century we find an attempt made to copy the finger nails. Late in the fifteenth century the earlier form with articulated fingers was reverted to. Gadlings, or knuckle and finger spikes, were in vogue throughout the century (fifteenth)—a truly dangerous weapon of offence for the *mêlée*. Again, later we have the fingers covered with overlapping plates, very narrow and flexible. Another form is the elbow gauntlet. We have a pair in our collection at the Castle. A locking gauntlet was invented in the latter part of the sixteenth century, the object

of which was to prevent the weapon from being knocked out of the hand, to which it was fastened by a hook and staple. This gauntlet was often barred in single combats. There is an example of this contrivance in a suit in the Tower of London.

TACES, TUILLES, TASSETS, BRAYETTE, AND GARDE-DE-REINE OR
RUMP GUARD.

Taces were the laminated plates at the bottom of the cuirass, and to these the tuilles or upper thigh guards were attached by straps and buckles. Before the introduction of tuilles it was common to wear mail below the taces often with scalloped edges, but there was often the lower portion of a shirt of mail still worn beneath the cuirass. Taces usually consisted of three and sometimes of five and even of eight lames, as noticeable in the brass of sir John Lysle (died 1407), whose armament is entirely of plate; but early examples are in one piece, and indeed late examples also. In the centre was a space for the brayette or cod piece; but this was mostly used after the introduction of tassets. An early example with taces only is to be found on the brass of sir John Drayton, but part of the lower portion is missing. Laminated taces first appear late in the fourteenth century; the brass of Nicholas Hawberk (died 1406), at Cobham, is an example. Almayne rivets gave great elasticity to the armour. The tuille is peculiar to armour dating from the second quarter of the fifteenth century; it is a pointed and an scalloped shell or tile-like plate in one piece, extending down so as to cover the top of the cuisse, and was attached to the taces as a guard against an underthrust of the sword. There is an early example in the brass of John Leventhorpe, in Sawbridgeworth church, Hertfordshire (1433). It lingered long in England, as shown in the Stanley and Lementhorp brasses in Westminster abbey and Great St. Helen's church, 1505 and 1510 respectively. The Beauchamp effigy (1439) shows four tuilles. Tassets followed on these pieces, though for a time contemporaneous. They were practically the same piece as the tuille in laminated plates, but were generally attached directly to the bottom rim of the cuirass, taces being then usually dispensed with, unless in one plate, forming the connecting link. It was not uncommon to find them in two parts during the second half of the sixteenth century, as shown in the

Alnwick example (fig. 13). Tassets gradually increased in length as time went on until they reached over the knees, forming then the *cuisse* itself of laminated plates. This was the last stage before the introduction of the jackboot. The *garde-de-reine* was a projecting piece attached to the rim of the backplate—it was of overlapping plates, and protected the rump and small of the back.

CUISSE, GENOUILLIÈRE, AND JAMB.

Up to and somewhat beyond the Conquest there was probably little or no leg armour in England other than thongs, but there are early German examples. Soon after the Conquest *cuir-bouilli* was largely used, and this was followed by stockings of mail and *sollerets* of the same, as may be seen on the seals of Richard I. Even up to the middle of the fourteenth century it continued common in England to wear these pieces in chain-mail with attachable *genouillières*. An example of this kind may be seen on the effigy of Robert de Vere (died 1221) in Hatfield Broad Oak church.

The *cuisse* was the piece going round the front of the lower thigh, fastened by strap and buckle. It first appeared in France and England in the second quarter of the fourteenth century and became general towards the close. In armour of the latter half of the fifteenth century it was often embellished by consecutive triangular laminations at the top. In the second half of the sixteenth century it was sometimes in two detachable pieces.

Genouillières (defences for the knee) were the first body pieces of plate, except perhaps the *plastron-de-fer* or breastplate, and *coudière*. They first appear in the thirteenth century—an example about 1250 is figured in plate xxx. of Stothard. The side of the knee became further protected by *roundels* late in the century, and from that time these appendages become more ornate and comprehensive. As soon as plate armour was completed *genouillières* became articulated both above and below the knee. In armour of the second half of the fifteenth century they are specially beautiful, assuming a shell-like form, often bivalve, with scalloped edges and flutings. The *chausse* or shin piece was used in chain-mail, indeed earlier still in fortified leather, and early in the fourteenth century it became plate and was termed *jamb*, first only in front attached by strap and buckle, and

later going round the leg hinged and fastened by sliding rivets. The inventory of Piers Gaveston (1313) catalogues 'three pairs of hinged jambs.' These pieces were generally plain. Both they and sollerets disappeared with the advent of the jackboot.

SOLLERETS.

Sollerets are a better guide as to date of armour than gauntlets, particularly after the fourteenth century, for reasons given under the head of the last named. The first sollerets of overlapping plates were of extravagant length. This form followed the prevailing fashion in shoes, and hence the name 'à la poulaine,' from 'souliers à la poulaine.' The long form was much modified during the last quarter of the fourteenth century and well into the fifteenth, but it reappeared later in the century again with enormous tips, the length from toe to heel being up to twenty-four inches. The instep of chain-mail was not uncommon in the fourteenth century. The sollerets of the Black Prince were of enormous length. The tips could, however, be disconnected at pleasure. The shorter form was styled 'demi-poulaine,' or 'ogivale lancette.' A variety called 'ogivale tiers-point' largely prevailed in the second half of the fifteenth century. When ridged and scalloped armour was replaced by Maximilian, sollerets were wide and short, in fact the shape of a bear's paw or cow's mouth, spreading out at the sides, and requiring very broad stirrups; but when fluted armour was discontinued the shape became gradually narrower, and at last more like that of the foot. This variety was styled 'bec-de-cane,' which differs, however, from the 'tiers-point' of the fifteenth century. Sollerets disappeared altogether with the jamb, the jackboot taking their place.¹³

SHIELDS.

The triangular shield appears in the twelfth century. Shields of the thirteenth century and later have been briefly referred to in the text, but some further reference to these defences cannot properly be omitted; though this subject is far too voluminous for more

¹³ Like many classifications of the kind, this is rather arbitrary, as we have many late instances of 'bear-paw' sollerets.

than the very roughest outline in these already far too extended pages, written for a publication in which space is necessarily very limited. Pavises were very large shields to be placed before the bowmen as a defence ; and were provided with an inner prop to hold them upright on the ground. As to ordinary shields, most of the thirteenth-century forms extended into the fourteenth ; when the *bouche*, or hole cut in the right corner as a spear rest, was introduced. They were pear-shaped, triangular, heart-shaped, circular, and sometimes nearly square. The material was generally of wood or leather, or both combined ; the latter often embossed. They were more or less fortified, and sometimes partly or wholly of iron. For tyros, basket-work was used. Shields generally bore a heraldic device, or other cognizance ; and were frequently curved, bossed, and spiked. The usual shield of a knight of the fifteenth century had the *bouche* ; was convex, and about two and a half feet long, by about a third of that broad, and pointed at the bottom. In the sixteenth century ordinary shields were seldom used, but an immense amount of fine artistic work was lavished on the pageant shields of that period.

'GOTHIC' ARMOUR 1450-1500.

The Gothic¹⁴ school, as the Germans term it, exhibits the highest embodiment of artistic beauty as applied to defensive armour. The armourers' best efforts were directed not only to give increased protection to the limbs and make the armour flexible and impenetrable, but also to produce beauty of form and outline. We owe the initiation to Germany, in which country it reached its highest pitch of excellence. Gothic armour is greatly associated with the *sallad*, large *mentonnière*, *tuelles*, *sollerets à la poulaine* and *ogivale lancette*. The *cuirass* is decorative and long—it has been fully described under the heading devoted to this piece. There is an English example of this style of armour on a brass in St. Mary's church, Thame, Oxfordshire, about 1460 ; and another on the effigy of sir Richard Beauchamp, earl of Warwick, in St. Mary's church, Warwick ; and there are some suits in the Tower of London. There are only few Gothic suits pre-

¹⁴ The designation 'Gothisch' (Gothic) seems as ridiculous and inappropriate when applied to armour as to architecture.

served in this country; our practical people having used so many up as old iron, just as they let the weather into our fine abbeys and churches by tearing off the roof-lead for the melting pot. I shall describe in detail, and give an illustration of this style in its greatest purity from an example in the collection at Sigmaringen castle, the cradle of the Hohenzollerns.

Transitional Gothic, where laminated tassets replace tuilles and merge into the next stage in various ways, is also very beautiful. In both varieties you have lovely scalloped and fluted roundels, often charged with a heraldic rose. A fine example of this description may be seen in the national museum at Munich. In other countries, especially England, France, and Scandinavia, armour of this period of home manufacture, if it may be called so, was plainer, with the details more mixed and uncertain. In the English form the cuirass is usually either in one or two plates. A description and illustration of such a suit in my own collection follows in its order.

SIGMARINGEN SUIT.

This beautiful Gothic suit (fig. 3) is said to have belonged to one of the counts of Hohenzollern-Eitel. Demmin refers to it as being erroneously ascribed to Eitel Frederick I. of the thirteenth century. This must be a mistake, as there were no counts of Hohenzollern-Eitel then! There were two Eitel Fredericks in the fifteenth century. On consulting the *Stammbaum* at Hohenzollern I found that:—

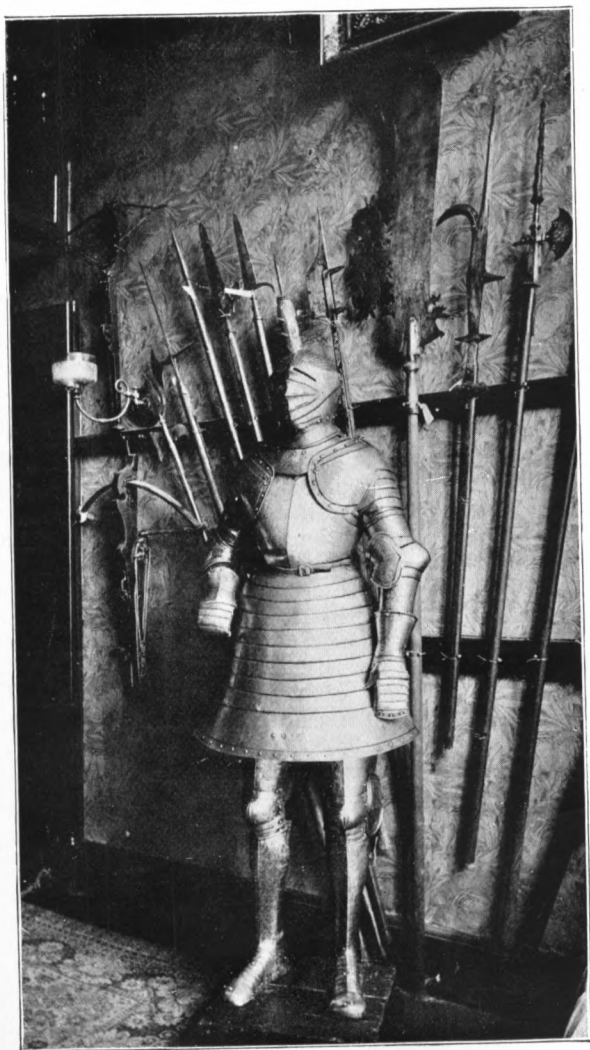
Eitel Frederick I.	reigned	1426-1439.
Jost Nicolaus I.	„	1439-1488.
Eitel Frederick II.	„	1488-1512.

And the character of the armour conforms to the reign of the last named. There was no later 'Eitel Frederick.'

The sallad is very heavy and of the usual German form. There are traces of leather lining, and besides the ocularium are two small holes above the forehead. The mentonnière is fastened to the breast-plate by a cusped clasp; it can be raised or lowered at pleasure, and there is a spring catch for the purpose. The cuirass is most elegant in shape, consisting of three plates, the two lower slightly overlapping, leaving a decorative margin and converging to points along the tapul



FIG. 3.—SIGMARINGEN SUIT.



GOthic SUIT AT SOUTHDENE TOWER (SEE BACK).

(From a photograph by Mr. Parker Brewis.)

This plate given by Mr. Clephan.

GOTHIC SUIT, 1460-1500.

This suit, like so many of its period, is incomplete. The armet with it, when I acquired it, never belonged to the suit, and there is no mentonnière. The sallad, shown on the figure, I had made for giving as good an effect as possible. The suit is otherwise complete and of fine material, proportions, and workmanship. The steel of the period is, I think, better than any later.

The details, with a few exceptions, closely resemble those of the Sigmaringen suit, fully described on page 251. There are roundels at the armpits on my suit; and these, together with the elbowguards, are beautifully ridged and bevilled. The tuilles are larger and squarer than those on the 'Sigmaringen' suit, and the sollerets are not so long in the tips. The cuirass is in two plates. The general details greatly resemble those of a suit at Vienna, attributed to Sigismund of Tyrol, which is also an incomplete suit.



TYROLESE SKIRTED ARMOUR, 1550-1560, AT SOUTHdene TOWER (SEE BACK)

(From a photograph by Mr. Parker Brewis.)

This plate given by Mr. Clephan.

TYROLESE SKIRTED ARMOUR, 1550 1560.

This suit is said to have come from a castle in the Tyrol, but I could only trace it back some seventy years. The general pose is excellent and characteristic. The armet is fluted and 'Maximilian,' and in three pieces. There is a small crest on the casquette and a plume-socket. The visor moves on rosettes of nine petals, and it projects sharply forward to a point; the front consisting of four deeply indented bevils, with two broad lights above them, and two smaller slits in each bevil. There is a spring-catch for closing the visor. The bevor has a small collar, and it is attachable to the casquette by a similar catch. The casquette has a collar of three lames. The helmet weighs five pounds, and is almost identical in form with one catalogued no. 47, fig. 45, among the helmets exhibited at the rooms of the Royal Archaeological Institute, in July, 1880. The date given is 1515-1530. In all probability the helmet before you was made somewhat earlier than the date I have fixed upon for the suit. The cuirass has a tapul with a projection near the base, like the 'peascod' and this feature seemed to me to be indicative of a rather later date than 1550-1560. I noticed, however, the same form on a suit with lamboys in the Ambras collection, which is attributed to the archduke Ferdinand, count of Tyrol. This armour, like that before you, is for fighting on foot. The lamboys consist of nine lames, the lowest much broader than the others; with a band, studded with rivets for an inner lining, terminating with an ornamental string-like piping. These skirts are attached to the lower rim of the cuirass by adjustable screws; and each lame is provided with a similar screw on both sides for attaching the back and front portions together. The back of the lamboys is the same as the front. The pauldrons are very large and of equal size both back and front; while the rerebrace is freely laminated. The coudières are cup-formed and go nearly round the elbow joint. The heart-shaped guards, the tops of the pauldrons, and bottom of the rerebrace are enriched by a small piping. The gauntlets are 'miton,' quite complete and of fine workmanship. The cuffs have their upper edges adorned with a similar piping to that on the other pieces, and the same design is repeated at the base of the last finger plate. Over the knuckles is a bold twisted piping, and the laminated plates over the back of the hand consist of five plates above the ridge, while those below are the same in number. The gauntlet is of the type prevailing about 1535-1540. The cuisses and jambs have a ridge running down to the sollerets, while the genouillières are ornamented with a double bevil in the centre. The knee guard is oval and bevilled in the centre. The sollerets are small and of the bec-de-cane type.

at the breastbone and below. The lower plates are rivetted and add both strength and elasticity to the piece. There are holes on the right breast for fixing the lance rest; and on the left are two holes for fastening on a grande-garde for tilting. The taces consist of three lames, and to these the tuilles are attached by straps and buckles. The tuilles are very graceful, with angular flutings, and terminate in a point. The cuisses are decorative, and the jambs hinged. The genouillères are small, with bivalve guards. The pauldrons and rerebraces are laminated; the coudières pointed and held in their places by straps. The roundels are unfortunately missing. The gauntlets are articulated, with sharp gadlings over the knuckles and first finger joints. The garde-de-reine consists of three lames. The sollerets are à la poulaine in an extreme form, but the tips can be disconnected at pleasure for foot fighting. The lower part of the body is protected by a skirt of mail. I could find no armourer's mark, but judge the suit to be of either Nuremburg or Augsburg make.

MAXIMILIAN ARMOUR (ERRONEOUSLY CALLED MILANESE), 1493-1540.

Gothic armour underwent a great change about the end of the fifteenth century, during the reign of the emperor Maximilian (died 1519), when fluted armour came into general use. The helmet, the armet, is nearly as much associated with Maximilian armour as the sallad is with Gothic. There are suits of this armour in the Tower of London presented by the emperor Maxmilian to our Harry the eighth. As already mentioned, a very distinctive feature of this period, which lasted only four decades, is the skirt of mail called 'bases' or 'lamboys,' which resembles a full gathered petticoat or kilt.

I give an illustration (fig. 4) of a typical suit in the Munich collection. The details are as follows, and bear out the general description of the class already given in these notes:—

The suit is fluted throughout, except the jambs, which are nearly always plain. The helmet is the armet, and this example sufficiently indicates the date of the armour; both form and workmanship are good. Instead of the large Gothic mentonnière, there is a gorget and throat guard. The pauldrons, which are uneven in size, are sur-



FIG. 4.—MAXMILIAN SUIT.—MUNICH.

mounted by *passe-gardes*; the left pauldron is the larger. These pieces consist of front and back plates, an innovation of the sixteenth century. The cuirass is shorter than the Gothic form, globular and cut straight at the top. The backplate terminates in a *garde-de-reine* of three lames. Gauntlets are of the mitten type, with narrower lames than in the form immediately preceding. The *coudières* are pointed over the elbow joint, with bivalve guards. *Taces* and *tassets* are in one piece and laminated, with a space in the centre for the insertion of the *brayette* or *cod* piece. The *armet* collar is laminated behind. The *sollerets* are of the 'bear-paw' form. The armour bears the Augsburg mark.

There is a remarkably fine suit of Maximilian armour in the 'Königl. Bayer. Armee-Museum' at Munich. It is not, however, quite such a characteristic example as the one already given, inasmuch as the pauldrons, besides not being winged, are without *passe-gardes*. The armpits are protected by spiked roundels. In all other respects this suit is identical with the one preceding.

DEFENSIVE ARMOUR, 1550-1620, AND TO THE END.

Defensive armour underwent a great change about the middle of the sixteenth century, viz., in the casting aside of fluted armour, for the reasons already stated, and the resumption of plain steel. The second half of the century was specially remarkable for profuse and artistic ornamentation. Armour was engraved by hand and manipulated with *aquafortis*, as well as embossed and damascened with gold, in a manner that has never been surpassed in any work of the kind whatever. I give descriptions in detail and illustrations of inlaid and *repoussé* suits, as well as of a plain suit, all of the second half of the sixteenth century. During this half century (sixteenth) defensive armour may be said, in many respects, to have reached the highest point of excellence; but towards its close unmistakable signs of decadence began to appear, and *cap-a-pie* suits fell gradually into disuse. This was caused by the inability of the armour to resist the then more penetrating firearms, or perhaps even still more, because the newer tactics demanded fighting more in masses and less from individual efforts hand to hand. *Tassets* were gradually lengthened

until they became cuisses of laminated plates, extending over the knees; and the jackboot replaced the jamb of steel and solleret. A style of armour called the 'allectret' largely prevailed during the second half of the sixteenth century. The name is a corruption of 'alle-kraft' (all strength). The peculiarities of this fashion will be shown in an example from my own collection, which will be fully described later in these notes. This half armour was often worn by household troops and leaders of companies. It is very common to find, especially in family collections, some particular suit or suits ascribed to a great ancestor, but this is nearly always romance. It is an uncommon advantage to find a harness dated with the year, as some few are. There is a typical suit of this kind in the national museum, Munich, with the date 1597 inscribed. The burgonet of the suit has perpendicular bars, tapul with a hump over the abdomen, tassets transformed into cuisses to the knees. The more I see of armour, 1560-1600, the more I become impressed with the difficulty, in many cases, of fixing any approximate date, or arriving at any standard for suits covered by the period. Many suits were restored again and again, and this naturally gives rise to great perplexity. The change in armour during the first half of the seventeenth century was very great. The breastplate became flat and very short, and open helms were much worn.

Plate armour fell into discredit during the seventeenth century, and gradually disappeared. The cuirass was the last piece generally worn, and this in time gave place, except in the case of the cuirassiers, to the buff coat and jerkin.

ITALIAN ARMOUR.

The harness already referred to (fig. 5) worn by the prince bishop of Salzburg about 1600 is a beautiful suit by the Milan armourer, Lucio Piccinino. It is profusely inlaid with gold and the ornamentation is most chaste and elegant. Space will not admit of full details, indeed as regards form there is no special feature—the helmet and suit throughout is closely in touch with the elegant Italian school of the end of the sixteenth century. About this time many suits were made for both battle and tilting—a suite of



FIG. 5.—THE PRINCE BISHOP'S SUIT.

reinforcing pieces being added for the latter as in this instance. Mention has already been made under the head of 'Tournaments' of these pieces for screwing on to the other armour. You will observe that the general details of the illustration justify the date. The prince bishop's arms are engraved on the cuirass, and its historic character lends to it special interest and importance. The armourer's name is on the harness.

ARMOUR AT SOUTHdene TOWER, GATESHEAD.

PLAIN SUIT, 1490-1520.

This suit (fig. 6) is severely plain, the only ornamentation being a ridged piping. Like almost all harnesses of its period it must tell its own tale, as there can be little else to guide us. The armet is in three pieces—the casquetelle, visor and bevor. The visor works on large brass rosettes—it projects out in front to a sharp edge down the centre and is bevelled in four slightly concave sections, in each of which are four narrow slits for air and vision. The ornamentation on the rosettes is cut unevenly, the section on one being much the smallest. In outline the headpiece closely resembles one in the collection of the baron de Cosson, No. 43, fig. 42 in the catalogue of helmets exhibited in the rooms of the Royal Archaeological Institute in 1880. The baron dates his helmet about 1515, but this would be somewhat late to correspond with the general character of the suit under discussion. Round the edges of the casquetelle are a series of small twin holes, similar to those present on some bassinets, for attaching the rings of a camail. The gorget has two lames for the neck, and opens and closes by a slip-hole and rivet. Around the rim are two rows of string-like piping. The breastplate is slightly globular, and the tace, which is in one piece, is rivetted to the bottom of the cuirass. The tace has a narrow piping at the top, and the tuilles are attached to it by straps and buckles. The tuille is in four shell-like bevils and terminates in a point. The pauldrons are attached to the cuirass by straps, and piping goes all along the edges: the chest ends are bent outwards. The rerebrace is freely laminated. The coudières are round over the elbow joints, and have a straight heart-formed guard. The gauntlets have a long wrist guard and are of the mitten type, without finger articulation, but with a separate

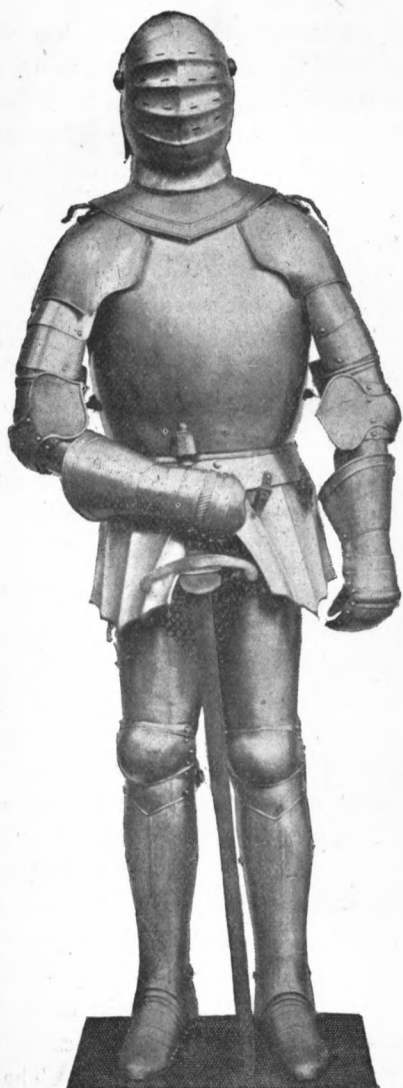


FIG. 6.--THE PLAIN SUIT AT SOUTHDENE TOWER, GATESHEAD.

thumb guard. Across the knuckles is a broad fluted projection. The lower body is protected by a skirt of chain-mail. Cuisses, genouillères, and jambs are plain, without special features. The sollerets are those called 'ogivale tiers point,' being nearly the shape of the foot, which variety was greatly worn 1460-1500. The general aspect of the suit is of late fifteenth century, but the tuille lingered long in England, so that the harness is quite possibly of early sixteenth-century make.

ITALIAN MODEL SUIT.

This perfect little suit has doubtless served as a model in the workshop of some great Italian armourer, and the style and finish could not do otherwise than reflect the greatest credit on his work. The harness is profusely and tastefully engraved with a foliated style of ornamentation. The helmet is flat-topped, with a grated visor and has a collar. There is a heraldic device, on a shield ground, in the centre of the tapul. The figure has a triangular shield. The style of engraving fixes the date within narrow limits.

THE OSUNA SUIT.

This is highly characteristic of the period it represents. The armour is freely ornamented in repoussé or hammered work, and bears traces of gilding. The suit was probably made in Italy, is very handsome, and has seen much service. I say 'probably made in Italy,' because, as previously mentioned, recent investigations have shown that several of the finest European suits, formerly classed as Italian, have since been proved to be the make of Nuremburg, Augsburg or Innsbruck armourers. Being well authenticated it has a special interest; and forming part of a local collection as well, a full statement of the details will not be out of place. The suit belonged to Don Pedro Fellez de Giron, duke of Osuna and Infantado, knight of the Black Eagle order, etc., viceroy of Sicily about 1600, and later of Naples (about 1610). It was saved from the fire at the old Giron family seat in Belgium—the castle of Beauraing, in the province of Namur, not far from Dinant. The place was burnt on the 3rd December, 1890, at half-past ten in the morning.

DETAILS.

The whole suit (fig. 7) is freely ornamented with arabesques, banded in the Italian style, interspersed with human heads, some of



FIG. 7.—THE OSUNA SUIT AT SOUTHdene TOWER, GATESHEAD.

them grotesque ; and a series of armed figures, which demand a much closer examination than I have yet been able to give them. The helmet is a remarkable piece of workmanship, and forged in a single piece—it weighs seven pounds. It is an Italian casque of a most graceful and classic form. The repoussé ornamentation on it is banded like the rest of the armour. The comb is very high and fluted all over the crest. There are remains of a leather lining inside, fastened all round with gilded rivets. The plume socket has two holes for adjustment ; and there is another hole in the comb for firmly securing the plume of feathers. The oreillettes are provided with six holes on one side and three on the other for hearing ; and have each a round projecting eye, with fluted edges, presumably an attachment for keeping the flaps up when not required, or for fastening them across the throat. Both peaks are of overlapping plates, with fluted borders. A very similar helmet, in the possession of the baron de Cosson, was ascribed by him to 1530-1540. He writes concerning it :—‘ Many rich suits had one of these light open helmets as well as a close helmet, a fact proved by existing examples at Madrid and elsewhere.’ I have myself quoted an example in the description of the suit of the prince bishop of Salzburg, which has a close helmet and a kind of morion. The gorget has an ornamental border. Both breastplate and backplate are freely decorated. An illustration follows (fig. 8) of a part of the ornamentation of the former, which is provided with a tapul ridge. This tapul affords excellent data for approximating the date of the suit. You will observe that there is a hump projection near the bottom. In the middle of the sixteenth century there was sometimes a projection of this kind near the centre of the breastplate, but one lower down is rather characteristic of the third quarter of the century ; this particular form was termed the ‘peascod’ in England. Both these pieces are bordered round the chest and arms with a thick ridged piping. This piping was a contrivance to stop the lance instead of its possibly penetrating below the gorget. The tassets consist of six lames, and are attached to the tace, which is in one piece, by straps and buckles ; the rivets have all gilded heads. The lower body is protected by chain-mail. The left pauldron is the larger ; both have free laminations at the shoulder and upper arm. The coudières



FIG. 8.—SOME DETAILS OF THE OSUNA SUIT.

are cup-formed over the elbows, and go round the arm. The gauntlets have highly rounded articulations for the fingers, with a separate thumb plate. Both leg armour and sollerets are freely decorated in 'banded' ornamentation, with enclosed medallions, besides gilded rivets. A sharp ridge runs down the front of the cuisse, genouillère, and jamb. The genouillères are fastened round the back of the knee by straps, and on to the jambs by a reversible turning pin on the latter, passing through a hole in the former; and a turn of the screw secures the attachment. Jambs, which are hinged, and sollerets are rivetted together, with lames above the ankle. The sollerets are 'bear-paw.' All these pieces are held together by gilded rivets. The valuable series of figures interspersed among the arabesques will repay some study. The suit was probably made in the third quarter of the sixteenth century, or possibly as late as the fourth quarter, though the shape of the sollerets would point to a somewhat earlier period.

THE SELE HOUSE SUIT.

You will notice that this harness (fig. 9) exhibits many points of contact with the Osuna suit; but what a contrast in material, taste, and finish! Both suits have seen much service, and to judge by the casque, tassets, and other features, should belong to nearly the same period; but it seems likely that this suit was made by an English armourer at a later date, copied probably from an imported suit. During the latter part of Elizabeth's reign, and in that of her unwarlike successor, the native armourers turned out rough work; and most of the fine suits of this period still left to us were imported from Germany or Italy. The casque is barely half the weight of the Osuna helmet; it is ungracefully tall, with the usual oreillettes and plume socket. The gauntlets are curiously alike in the two suits, in the rounded finger plates and nail pieces. The tapul is the 'peascod.' The genouillères and jambs are very similar to those in the Osuna suit, and there is the same catch attachment for the leg pieces. The sollerets are large, broad, and clumsy. There is a family tradition that this suit was last used in 1650, at the battle of Worcester.

SUIT OF ARMOUR CALLED THE 'ALLECRET.'

This description of armour was largely used by the Swiss and German infantry during the second half of the sixteenth century.

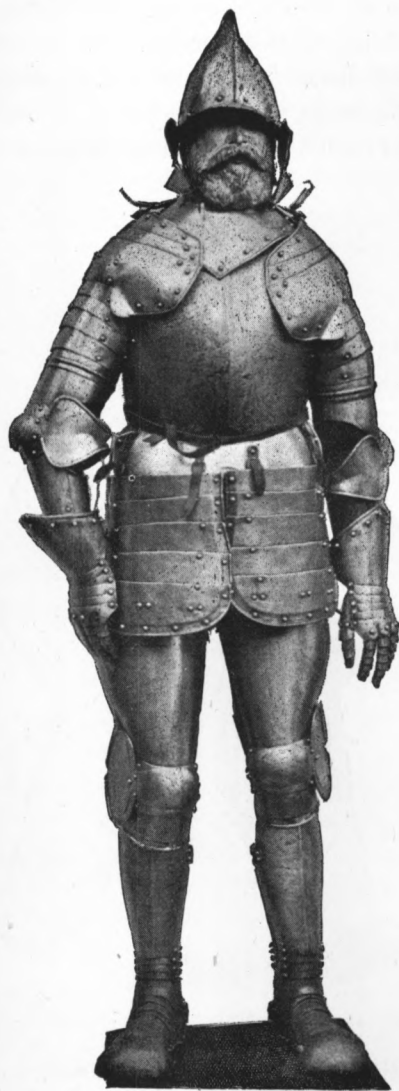


FIG. 9.—THE SELE HOUSE SUIT AT SOUTHdene Tower, GATESHEAD.

The suit under discussion (fig. 10) is probably of English make, of the latter part of Elizabeth's reign. The gorget and épaulières form one piece, being rivetted together. The cuirass is strong and flexible, and highly characteristic of the period ; the tapul projects in a hump below the centre, fixing the date of the suit within narrow limits. The taces consist of three and the tassets of five lames. The

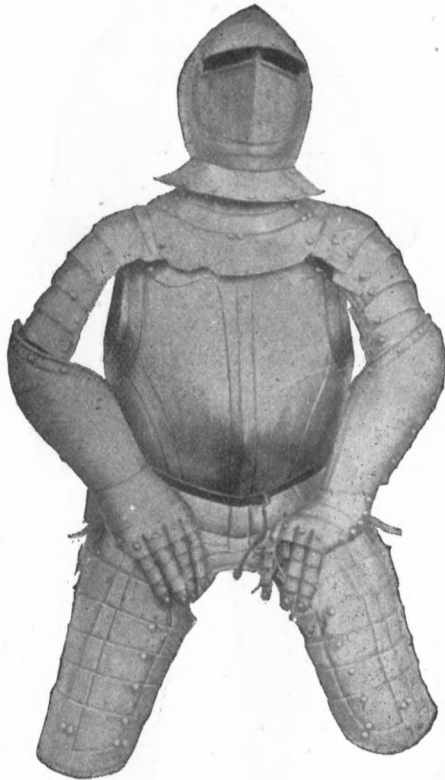


FIG. 10.—ARMOUR CALLED 'ALLECRET,' AT SOUTHDENE TOWER, GATESHEAD.

gauntlets are of the long elbow type, local examples of which may be seen in the collection in the Castle of Newcastle-upon-Tyne, and at Naworth castle. The umbrilled helmet conforms to the period named. Leathern boots were worn with the suit, a common feature of the period. The brayette is missing, which is generally the case.

THE ARMOURY AT BRANCEPETH CASTLE.

This collection is large in the number of suits, and consists principally of late sixteenth and seventeenth-century armour.

Entrance Lobby.—This small room, which opens out into the great hall, contains two suits.

No. 1. A suit of blackened armour for a youth. The upper and lower portions do not belong to quite the same period. There is no special feature, and the date is generally from the end of the sixteenth to rather early in the following century.

No. 2. This is an important suit (fig. 11) and of rather an earlier period than the bulk of the collection. It is that of a knight, and dates about the end of the sixteenth century; luckily this beautiful armour has escaped the brush. The helmet has an umbril over the eyes. Immediately under this peak is the ocularium of two very broad slits—the visor is grated. The suit is freely studded over with rather large-headed rivets, the gorget is pointed, cuirass short with lance rest, but no garde-de-reine. To a broad rim at the bottom, tassets, consisting of nine lames, are attached by straps and buckles. Such long tassets clearly foreshadow the next stage, when these pieces were abolished altogether, being in fact merged into the cuisse to the knee. A pauldron on the left shoulder, none on the right, coudières sharply pointed at the elbow. The most remarkable and distinctive feature in connexion with this suit is the protection given to the inner arm by a series of small and very mobile laminated plates, attached to the rerebrace and vambrace by rivets. The gauntlets are articulated, with gadlings over the top knuckles. Cuisse and jamb have a high ridge running down the centre in front, the genouillères having a thicker projection, bevelled at the sides, in a line with the ridge on the other two pieces.

The Great Hall.—This noble hall is spacious and lofty, lending itself in every way to the exhibition of the suits of armour arranged along the walls, as well as to their preservation from rust, owing to the thickness of the walls, and the free current of air running through the hall. For the easier identification of the various suits, I continue the numbers, beginning with those on the right side from the lobby, facing down the hall.

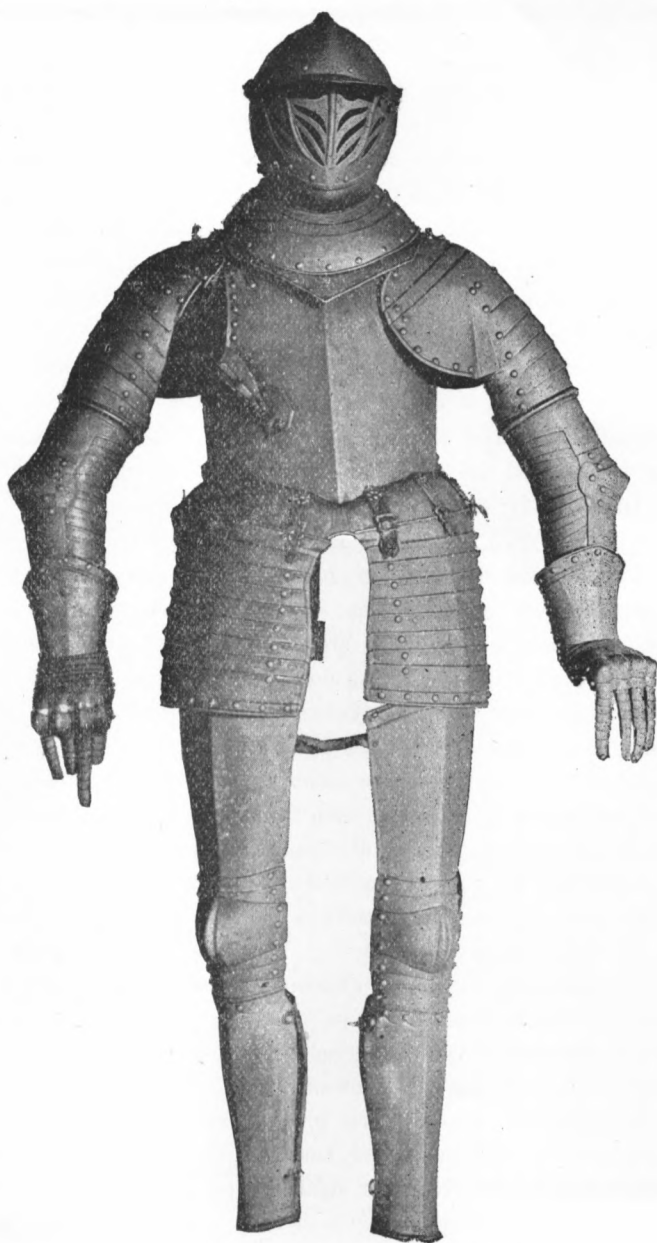


FIG. 11.—SUIT NO. 2 AT BRANCEPETH CASTLE.

No. 3. A *cap-à-pie* suit, blackened. The helmet weighs twelve pounds. I should consider it to date rather earlier than the rest of the suit, which is late sixteenth century. The suit is quite plain, and

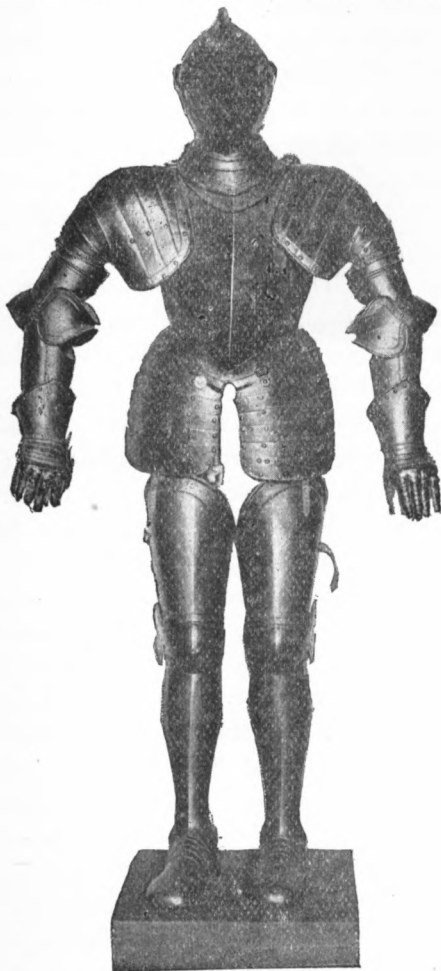


FIG. 12.—SUIT NO. 3 AT BRANCEPETH CASTLE (LORD BOYNE'S).

of English workmanship. The sollerets are the variety known as 'bec-de-cane.' Fig. 12 is a representation of this suit.

No. 4. A suit of half armour, black and white. The burgonet is open—the gorget and armour for the upper arms are in one piece.

This arrangement has already been described under the head of 'Allecret armour.' The date is 1580 to 1610.

No. 5. A suit similar in character to the last, excepting that the helmet is visored and umbrilled.

No. 6 is an inlaid suit, but incomplete, dating from early in the reign of Charles I. The casque has an adjustable nasal, with a socket for a plume of feathers. The pauldrons are in their places, but the armour for the elbows and lower arms is missing. The cuisses are in very narrow laminations to the knee. The tapulled cuirass and the pauldrons are inlaid in a very bold style of ornamentation, I should say decidedly French. I do not think that the helmet belonged originally to the suit. The character of the workmanship, finish, and ornamentation contrasts unfavourably with that of the century preceding, when Germany and Italy turned out work of such incomparable delicacy and finish.

No. 7. This suit is described as 'Maximilian,' and I had some difficulty in finding out which armour was referred to. The only fluted portions are the pauldrons, rerebrace and vambrace. The cuirass is plain, with a tapul; the taces are of four lames, while the tassets come down to the knees, and there are no jams at all. The helmet is late sixteenth century, and the ocularium is in one slit; just below it the plates project out to a long point. The pauldrons have passe-gardes. As the armour has been black varnished over, it is impossible to affirm that all the pieces belong to one suit. I should say undoubtedly that they do not, and that the only 'Maximilian' portions of the armour as it stands consist of the pauldrons and arm guards; the other pieces are very much later, neither the cuirass with tapul nor long tassets conforming at all to 'Maximilian' armour.

No. 8. A pikeman's suit, seventeenth century.

No. 9. Cavalier's armour, seventeenth century.

No. 10. A bright suit of cavalier's armour.

No. 11. A black suit of cavalier's armour.

No. 12. A pikeman's suit, seventeenth century.

No. 13. A half suit, seventeenth century, with elbow gauntlets similar to the example in the Castle of Newcastle-upon-Tyne.

High up on the walls of the great hall are several suits of very late armour, mostly pikeman's, and the walls are tastefully arranged with

a large collection of weapons, jackboots, etc. Some of these I hope to describe on a future occasion, in a paper which I contemplate on weapons.

Grand Staircase.—On the landing are two suits of bright half armour. One is that of a knight, with the lance rest, late sixteenth century, and the other a plain suit of a still later date. In a room connecting the great hall with the long gallery is a suit, the parts of which belonged originally to different suits—part late sixteenth, part seventeenth century.

The Long Gallery contains eighty pairs of breast and back plates of a troop of harquebussiers, of the seventeenth century. There are corresponding helmets, accoutrements, and flint lock weapons.

SUIT AT ALNWICK CASTLE.

This is a very chaste and elegant Italian suit (fig. 13), dating from the last quarter of the sixteenth century. It is ornamented in the banded Italian style; the ground of the repoussé work, with its rich minute foliations in low relief, are gilt, while the rest of the steel remains bright. The general style of the ornamentation is alternate chevrons of bright steel and repoussé work. (Fig. 14.) The decorative work on the pauldrons and genouillères is, however, much bolder in character than on the rest of the armour. A very similar style of ornamentation may be seen on a tilting suit given in Skelton, vol. i., plate viii., and dated by him 1543. The Alnwick harness is freely studded with brass-headed rivets.

The helmet is in four pieces, and highly characteristic of the Italian school of the period.

The gorget is comparatively modern, but conveys the idea that it was copied from the original piece owing to dilapidation, and but for the ornamentation it would pass even with close observers when the suit is set up.

The pauldrons are very beautiful and laminated at the shoulders and upper arm. The rerebrace and vambrace are finely formed and ornamented, the former with laminations.

The coudières are pointed at the elbows, with side guards which continue round the arms.

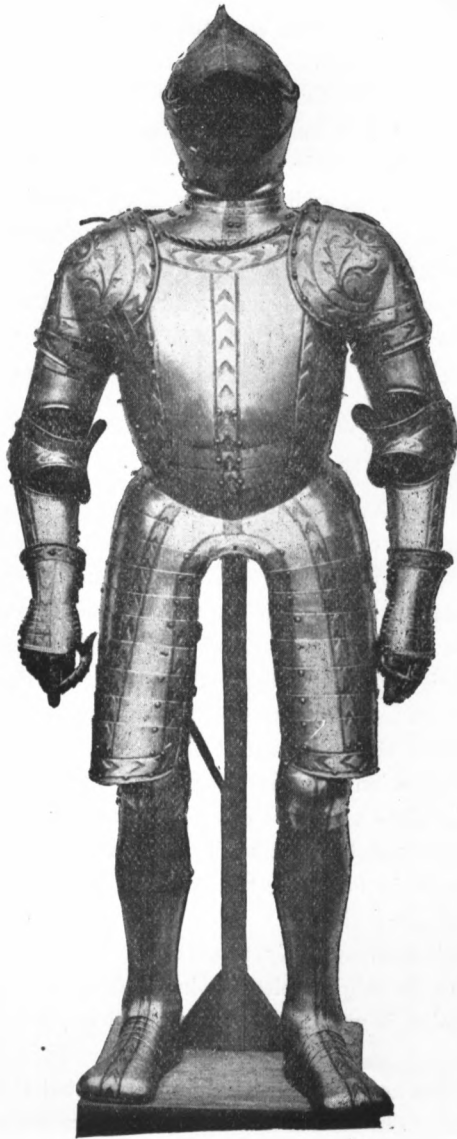


FIG. 13.—SUIT OF ARMOUR AT ALNWICK CASTLE



FIG. 14.—SOME DETAILS OF THE SUIT AT ALNWICK CASTLE.

The gauntlets are articulated, with thumb plates; and a salient ridge runs across the knuckles. One of them, like the gorget, is of a more recent date than the main portion of the suit.

The cuirass is specially long and handsome. A broad piping borders the top and arm holes. A tapul runs down the centre, projecting to a hump towards the middle. On the right side is the lance rest, and on the left holes for affixing a grande-garde. The lower portion of the cuirass consists of three narrow laminated plates, running almost horizontally, and fastened together by brass rivets. The tassets are rivetted to the bottom rim of the cuirass. These pieces consist of ten lames, with brass-headed rivets. A special feature is that the tassets can be shortened or lengthened at pleasure, the last four lames being detachable—clearly an arrangement for fighting on foot or on horseback. The upper section is complete in itself with an ornamental rim, as is the lower one. This is a contrivance often met with in the second half of the sixteenth century. The attachment is accomplished by a screw catch and sliding rivet.

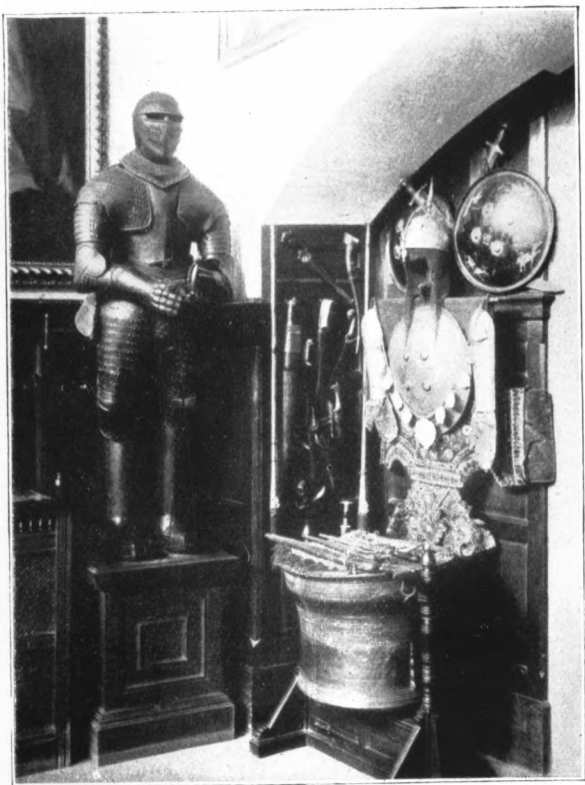
The backplate has a piped border round the top and shoulders and there are two lames at the bottom, which terminate in a garde-de-reine.

The cuisse, like the tasset is in two sections, with a similar means of attachment. The genouillères are attachable to the jambs by catch and sliding rivets. The knee-guards are small. The jambs are banded down the centre, in a line with the genouillères and cuisses. The sollerets are the variety styled 'bec de-cane,' being almost the shape of the foot. Both jambs and sollerets must be classed with the gorget and one gauntlet as restorations—they are all most beautifully done. Some details will be seen on fig. 14.

ARMOUR AT NAWORTH CASTLE.

This collection of defensive armour consists mainly of three fine *cap-à-pie* suits; besides two others without jambs or sollerets. I have classed the first mentioned suits in their order as they stand along the wall of the great entrance hall from the doorway.

No. 1 is a blackened suit, said to have been worn by lord William Howard (plate xv.). The helmet has a large laminated collar and an umbril or peak over the ocularium, which latter consists of two broad slits. The cuirass is short, with tapul, and is cut round at the



'BELTED WILL' HOWARD'S SUIT AT NAWORTH CASTLE.



top, and bordered with a piping. The backplate has a projecting garde-de-reine of several lames. The tassets are prolonged down the leg to the knees and attached to the genouillières, forming in fact cuisses of a series of overlapping plates. The jambs are hinged, and feet clad in shoes or rather clogs of plate—one cannot dub them sollerets. I should imagine from their form and appearance that both jambs and sollerets are of recent construction, and that really jack-boots had been worn with the suit. The pauldrons are large and of equal size, freely laminated at the shoulders, and charged with a star on each breast. The rerebrace is also freely laminated, and the coudières are pointed at the elbows. The gauntlets have large laminated lower arm-guards, and are semi-articulated, with separate thumb-guards. The suit is freely studded with round-headed rivets. Taking the harness generally, I consider the date of make well into the seventeenth century, perhaps even as late as 1630. On submitting the foregoing to the right hon. the earl of Carlisle, he informed me that lord William Howard died in 1640. It is therefore quite possible that what can hardly be more than a legend may be true in fact. The earl thinks that the suit had been worn with boots, and that the leg armour had been added comparatively recently, merely for effect.

Suit no. 2 is unvarnished, and exhibits many points of contact with no. 1, the main difference lying in the sollerets, which are a common type of late sixteenth and early seventeenth-century make. They are narrow and round at the toes, being in fact the variety known as 'bec-de-cane.' The gauntlets have articulated fingers, with a salient ridge across the knuckles. This beautiful suit has also an umbril over the eyes, and is somewhat slightly and crudely ornamented.

Suit no. 3 is very rich and handsome, being freely engraved and inlaid with gold—the gilding has, however, been greatly worn off. The ornamentation is somewhat rude both in character and execution and vastly inferior to either Italian or German work. There is the same feature in the upper leg armour as in the other suits. The helmet has a narrower collar, and the bevor is united to the casquette by a hook and eye; and there is a similar attachment for the visor, besides the spring on the right top. The cuirass is

ornamented with a medallion on either side. The subject is Saint George and the Dragon—the execution is good and reminds one of Milanese work. The genouillères are attachable to the jambs by reversible catches, which pass through the plate—they are the same catches as shown on the Osuna and Sele House suits. There is a tapul and a garde-de-reine. The sollerets are square toed, but very narrow, not ‘bear-paw,’ like the Maximilian. The armour seems to me to date from Elizabeth’s reign. Regarding the medallion the earl writes, suggesting that it is a ‘George’ badge, indicating a knight of the Garter, doubtless the ‘Lesser George.’ He also suggests the possibility that this suit may have belonged to the last lord Dacre, who died in 1566. This would of course make an even earlier date for the armour, but I cannot reconcile the transformation of the tassets into laminated cuisses with so early a date, though the sollerets being square toed would point in that direction; still this narrow form looks more like an armourer’s freak, as the sollerets of the Maximilian period and after are broad and splayfoot.

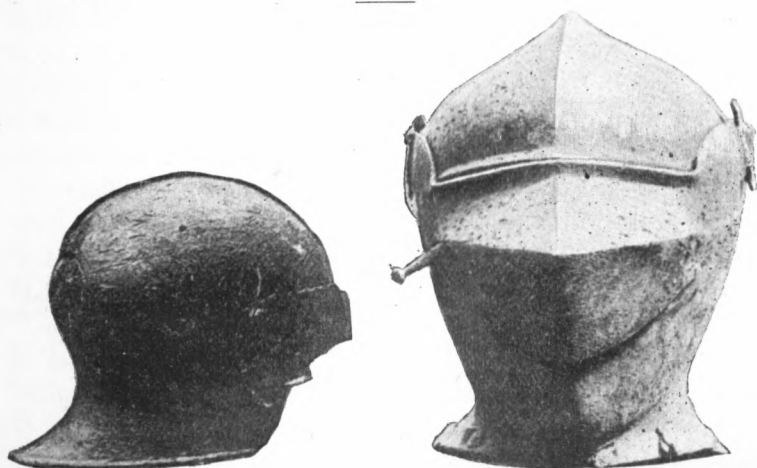
There are two other suits hanging on the wall, with no jambs or sollerets, worn with jackboots, and probably late sixteenth or early seventeenth-century armour; and besides these, some pieces of a considerably older suit, which I had not time to examine.

There is an Oriental panoply of unriveted fine mesh. The helmet has an adjustable nasal, with a bolt running down the front through a staple, and a screw for adjustment. Besides a long spiked crest are two sockets on either side for plumes. Two similar headpieces were exhibited in the rooms of the Royal Archaeological Institute in 1880, and are catalogued no. 162, fig. 123, and no. 164, fig. 124. These helmets are almost identical with the Naworth specimen, having the spike crest, plume sockets, nasal and camail attachment. They are described as Persian of seventeenth century, and we may attribute the Naworth suit to the same period and nationality, always assuming that the combined armour formed one harness, which is far from certain. There are arm-guards of plate, gloves fronted with mail, and a camail directly attached to the helmet, the uppermost links going through small holes as in our own specimen in the Castle library. The shield has four copper bosses and a fine foliated ornamentation in low

relief. The rest of the suit is freely ornamented, and most interesting. With it is an embroidered leather apron, worn with the chain armour by the man, and an ornament for the front, of a camel made of silver plate. The panoply was purchased at Delhi by the earl.

THE ARMOUR IN THE CASTLE OF NEWCASTLE-UPON-TYNE.

The chain-mail harness has been already described in these notes ; and with the exception of a couple of early skull caps, holed for the camail, a very interesting brayette and a few fragments, the remainder of the collection consists mainly of seventeenth-century armour. Among it is a notable example of a pikeman's harness of the reign of Charles I., and a pair of elbow gauntlets. As armour of this later period is rather beyond the scope of these notes, and as I have been obliged to pass over such among other local collections for want of space, I will not dwell longer on the Castle armour on this occasion.



1.

2.

1. Late fifteenth-century Sallad in Hexham Priory Church.
2. Late fifteenth-century Armet over tomb of the fourth earl of Northumberland in Beverley Minster.

[NOTE.—The illustrations to this paper are all from photographs taken expressly for it with two exceptions. The drawing on page 219 was made by Mrs. R. C. Clephan and that on page 225 by Mr. Eugene E. Clephan. The writer of the paper has been at the cost of all the illustrations.]