

The Archaeological Journal.

CATALOGUE OF THE EXHIBITION OF ANCIENT HELMETS AND EXAMPLES OF MAIL.

PREFACE.

The Exhibition of Helmets and Mail, which was held in the rooms of the Institute from June 3rd to June 16th, was planned with the object of bringing together as many types as possible, so as to facilitate a comparative study of the helmets of different periods and countries, and the construction of mail armour.

Although there were great and inevitable gaps in the series, the exhibition may nevertheless be considered to have been a marked success.

In the large room, on three tables, was a grand and nearly complete chronological series of one hundred and four European helmets dating from the middle of the fourteenth century and ranging over a period of three hundred years.

These helmets were thus arranged:—On the table nearest the windows stood the examples dating from 1350 to 1525; on the second table those ranging from 1530 to 1610; and on the third were the helmets of the time of the Civil Wars.

On the third table were also placed a number of interesting Oriental helmets of various dates and countries. Along one end of the room, and in the glass cases in the windows, were pieces of a miscellaneous character, and also fragments of helmets, and forgeries.

Over the chimney-piece were models of the helmets of Edward the Black Prince, Henry V, &c.

Some very fine helmets of Greek and Roman origin stood on a table in the inner room, while near to them, on a large table, were various specimens of body armour composed of chain mail and plates combined, or of small plates of steel used in various ways. Round the walls hung numerous coats of mail, coats of mail and plates combined, and pieces of mail armour.

The study of so many examples could not fail to throw much light on the construction and the development of the various kinds of helmets, and the presence of most genuine head-pieces of rare forms afforded a point of comparison for the test of doubtful ones and the detection of forgeries. One special circumstance which became apparent was that several of the helmets had been more or less altered at the time when they were in use.

The numerous examples of mail threw a new and clear light on the method employed in the construction of a form of defence hitherto but imperfectly understood.

That the Exhibition excited considerable interest was shown by the twelve hundred names inscribed on the visitors' book during the twelve days that it remained open; and the best thanks of the Institute are certainly due to all who contributed to the success of the Exhibition, either by organising and carrying it out, or by lending to it valuable relics of antiquity and specimens of the armourer's craft.

In order that a permanent record of the results of the Exhibition might be preserved, it was proposed that a catalogue of the objects exhibited should be published, and the Baron de Cosson and Mr. William Burges most kindly offered to add critical notes thereto.

Such an offer could not but be gladly accepted by the Council of the Institute. The Baron de Cosson accordingly undertook the description of the European helmets, with the exception of those of the Greek and Roman periods, and Mr Burges dealt similarly with the remainder of the Exhibition.

Each author has signed his part or parts of the work, and is solely responsible for the same.

The plates are reproductions of very careful drawings made by Mr W. G. B. Lewis from photographs of the helmets executed by Mr. Bedford, at the rooms of the Institute, under the superintendence of the Baron de Cosson. These drawings were closely compared with and corrected from the originals by Mr. Lewis, and their accuracy can be relied upon.

For various reasons the work has taken longer than the authors anticipated, but, on the other hand, the delay has enabled them to make a more careful study of many of the objects than would otherwise have been possible.

Antique Helmets.

INTRODUCTION.

The primary intention of these notes is to describe the objects exhibited at the rooms of the Archæological Institute, and not to write a history of antique or mediæval helmets and coats of mail. Where the articles are many, as in the case of the mediæval helmets, the description naturally resolves itself into something resembling a history, but it would be exceedingly absurd to go into the rise and progress of the antique helmet when there are only eleven specimens in question, of which several are repetitions of the same form.

It must be confessed that there is a very great want of a thoroughly exhaustive work on antique arms and armour, illustrated by drawings from actual remains and monuments, and finally, with such texts as remain in the classic authors, accompanied with very *literal* translations.

It is true that there is a great variety of papers and notices scattered among various classical and archæological publications, but there is nothing like such a work as above described and when works do come out they are often very disappointing.

Thus a book appeared lately under the title of "Der Helm," by Gustav, Freiherr von Suttner, but alas, it turned out to be almost entirely made up of copies of prints from Violet le Duc, Willemin, Hefner, and other well-known authorities. There is the first part of an article on the "Casque," illustrated with excellent engravings in the April number of 1880 of the *Gazette des Beaux Arts*, but unfortunately the author does not give his authorities, even in the very places where we would most desire them. Thus there is a woodcut of the so-called Bœotian helmet, but no reason is given for thus naming it; while for the statement that antique armour was lined with stuff with overlapping edges, we are referred to the modern restorations of classic costumes in the Musée d'Artillerie at Paris.

Sir S. Meyrick has a long chapter on Greek arms and armour in his "Critical Inquiry," but occasionally he falls into very strange theories. Thus for instance he broadly divides the Greek helmets into three classes. 1, the perikephala, 2, the kranos, and 3, the korus, which would accordingly roughly answer to the helm, the skull cap, and the open helmet of the middle ages. The first he assigns to the hoplites, or heavy armed infantry; the second to the light troops; and the last to the cavalry. Now an examination of these words in a good Greek dictionary is sufficient to dispose of this theory, for we find that they simply replaced one another in order of time. Thus *korus* is a frequent word in Homer, and is occasionally used poetically by Euripides and Sophocles. *kranos* is the usual word for a helmet in the flourishing time of Greek literature; it occurs in Herodotus, Æschylus, Euripides, Aristophanes, and Xenophon; *περικεφαλαία*, however, is found in late authors, such as Polybius, Statius, &c.

If we examine the passages in Polybius we see that he uses the word simply in the sense of a helmet in general, and in one place, so far from

indicating a Greek hoplite helm, he tells us that the Roman velites (light troops) had brazen perikephalía.

It is most probable that the Greeks distinguished the different helmets by means of the names of the places where the particular forms had either been invented or had become fashionable. Indeed, Herodotus tells us of the Corinthian helmet and Xenophon of the Bœotian, but it is rather difficult at the present day to assign the particular form to the particular people or place.

Herodotus, in mentioning the Corinthian helmet, uses the word *κυνει*, which strictly means a cap made of dogs' skin, but is often employed in the sense of helmet; while an ancient coin of Corinth presents the hoplite helm with a crest from the front to the back.

In fact most Greek helmets appear to have been modelled after felt or leathern originals, and the curious ridge which is found in so many of them, going round the middle of the head, is probably a reminiscence of the string which was originally tied round the felt cap to prevent it slipping down over the face.

The very curious helmet exhibited by Mr. Bloxam is an excellent example of this; it is simply a representation in bronze of the petasus or travelling hat tied round very tightly with a ligature.

Antique helmets were executed in bronze with some exceptions, such as the Assyrian, which were occasionally made of iron. Bronze has the advantage over iron, that it can be cast and then beaten out, and this process was most probably employed for the thicker kinds, such as the hoplite helms, but some, even of these, were made so exceedingly thin that they could only have been used as ornaments like the helmets of our cavalry at Waterloo.

Most Greek helmets were surmounted by a crest, and a reference to the coins and vases will show how various and beautiful these ornaments were made. The coins of Heraclia, Athens, and Velia are only a few among many. The starting point of a crest was the mane and tail of a horse, the former being attached to a long metal box, which ran from the front to the back of the helm. The tail was attached to the part below, which protected the neck; the beautiful gem, well-known as the Poniatowski helmet,¹ shows this arrangement.

Sometimes the crest was only connected with the top of the helmet by a small support, sometimes the bronze box which contained it was ornamented with figures, sometimes the crest was triple, sometimes the side crests resolved themselves into tufts of horsehair or feathers supported on springs; in fact there was no end to the different varieties. A most charming work could be written about the Greek helmets alone without taking into consideration the other armour.

Mr. A. W. Franks has the honour of beginning the study of the subject in a proper and solid manner. In the plates to Mr. Kemble's *Horæ Ferales*, he has described and drawn some of the classic helmets in the British Museum, and as several of them have dedicatory inscriptions we at last have some sure ground to start from.

The ensuing descriptions will be simply an attempt to continue the work so well and so carefully begun by this gentleman.

¹ See King's "Antique Gems," Pl. xlix.

GREEK AND OTHER ANTIQUE HELMETS.

No. 1. Fig. 1.

Greek Helmet of bronze, engraved round the edges, which have been further ornamented with bands of precious metal. The rivets remain by which these were attached.

Mr. W. Burges.

This is the most perfect specimen of the so-called Corinthian helmet in the exhibition, although it is evident that at one time it has been broken in a good many pieces, which have been reunited by means of a somewhat liberal use of solder, the whole being afterwards covered with a green patina. The forehead and nasal are much thicker than the other parts, but altogether the helm has the appearance of being a piece of serviceable armour. The form presents nothing remarkable, the lower edge being nearly level, with the exception of two quirks on either side of the neck. The cheeks meet in front within half-an-inch, and present a very different type to that afforded by the helm found in the *liissus*, belonging to Mr. Bloxam.

The great peculiarity in the present example is the insertion of a number of small pins round the edges, probably for the purpose of affixing an ornamental strip of silver; they do not project inside, so that they could not have been used for securing the lining. These little rivets have no heads on the outside where they project some sixteenth of an inch, while the heads on the inside are by no means large.

We have very little knowledge about the lining of the ancient helmets, Homer describing felt as being used in one instance, and Aristotle, in his *Natural History*, telling us that a certain sort of sponge is used for spreading under helmets and greaves, but we are left in doubt whether the sponge was cut into thin layers and fastened to the inside of the helmet, or whether it was worn as a cap.

An instance of the latter case is afforded by a copy of some fine figures from a Greek vase, where the wounded Patrocles wears a cap covered with spots, which may probably represent the holes in the sponge.¹

But to return to the helmet in question. All round the edge within the line of rivets is a punched ornament consisting of two rows of little circles, and beyond them an ovolo ornament.—(See plate 1 A).

There are two holes, one large and one small, at each extremity of the cheek. A small hole on either side of the bottom edge, where we should naturally expect a chin strap, and two more one-eighth of an inch in diameter, close together at the nape of the neck. These latter may have been intended for the horse tail, which was sometimes placed in that position. See the *Poniatowski* gem.

This helmet was obtained from Messrs. Rollin and Feuarent, of Great Russell Street

¹ I owe this reference to the kindness of Mr. Alina Tadema. The copy of the vase painting occurs in Weis's work, "*Kostum Kunde*."

No. 2. Fig. 2.

Bronze Helmet, found in the bed of the Ilissus at Athens. *Mr. M. H. Bloxam.*

Here we obtain a piece of historical information. This helmet was found at Athens. It is distinguished from the preceding one by the great length of the cheeks and by the distance they are separated from one another. Round the edges is a stamped or engraved pattern consisting of lines of the ovolo and the wave pattern—(See B on plate 1). These ornaments are stamped with the most careful accuracy, and it is almost impossible to tell where the stamp begins and ends. The ornament on No. 1 is by no means so accurate.

A very similar helmet is in the British Museum and drawn in the *Horæ Ferales*. This, likewise, has exceedingly long cheek pieces, but along the lower edge is an inscription to this effect:—"The Argives have offered (this) to Jupiter out of the (spoils) from Corinth." It was found at Olympia (where it had been placed as a trophy) by Mr. Morritt, and afterwards formed part of the Payne-Knight collection.

Here we have further evidence that this form of helmet may have been known as the Corinthian, but it is quite certain that its use as the head piece of the hoplites was not confined to Corinth, for it has been found in every part of the antique world where Greek arms and civilisation may have penetrated.

A helmet of this form in the Meyrick collection is said to have been found in Pompeii, and there are several other examples in the United Service Museum. These latter are very thin.

No. 3.

Etruscan Bronze Helmet (purchased at the sale of Samuel Rogers, the poet.) *Mr. M. H. Bloxam.*

This is a hoplite helmet very like that just described; it is in very bad condition, the whole of the sinister side being wanting.

The stamped border round the edge is shown at D, Pl. 1, but it changes round the nasal and eyelids to the pattern C.

There are no holes in it with the exception of, perhaps, one behind.

No. 4.

Etruscan Bronze Helmet (purchased at the sale of Samuel Rogers, the poet.) *Mr. M. H. Bloxam.*

Same type as the last. Very fragmentary; the left cheek destroyed. No engraving; a hole behind.

No. 5.

Etruscan Bronze Helmet (purchased at the sale of Samuel Rogers, the poet.) *Mr. M. H. Bloxam.*

Same type. The only peculiarity is a series of holes one-sixteenth of an inch in diameter, and at distances of half inches from each other round the edges. Whether these holes were for a felt lining or for the

attachment of a metal border is a doubtful question. Most probably the latter was the case, as holes at half inch distances would not be very convenient for sewing. In mediæval helmets the linings are sewn to pieces of leather, secured by rivets, or when they are secured to the helmet itself the holes are made double and close together, as in the case of the salade of the Baron de Cosson, drawn and described in the *Archæological Journal*, vol. xxxvii, p. 180.

This helmet is in very bad condition and much broken.

No. 6.

Greek Helmet of Bronze, slightly damaged in front ; at the sides are engraved figures of a boar and lion. (Fig. 3).

Mr. W. Burges.

A precisely similar helmet to this is preserved in the British Museum, and has been drawn in the *Horæ Ferales*. Mr. Franks, in his description, considers it to be Etruscan, and copied from a Greek original. He also states that helmets of this type have been found in the Neapolitan States, at Canosa, and in the Caucasus. The example in the British Museum was discovered at Vulci, and was formerly in the Milligen collection.

The helmet exhibited at New Burlington Street is almost a fac-simile of that in the British Museum. It will be observed that the outline of the eyes and the nasal piece are represented by engraving only. The dexter animal is doubtless a boar, but there is some doubt about the sinister one. Mr. Franks describes the British Museum example as having two boars, and also as possessing a spike for a crest at the top.

In the present example the spike has disappeared, but on the apex there are four holes one-eighth inch in diameter (two of them double) in a lozenge-shaped figure, with about one inch space between them, evidently an arrangement for a crest. There is a hole on either side just over the ears, which may possibly indicate cheek pieces, and there are several more in the neck. As Mr. Franks observes, this species of helmet was copied from the Greek, and used in later times in Etruria and Magna Græcia.

The example in question was obtained from Messrs. Rollin and Feuillant.

Demmin¹ has a representation of a very perfect helmet of this type, which is in the Museum of Mayence, and possesses a very curious arrangement for the crest and antennæ.

No. 7. Fig. 4.

Etruscan or Greek Helmet.

Mr. W. J. Belt.

This may probably be another Magna-Grecian helmet. In the *Horæ Ferales* is figured a somewhat similar one, found with Greek armour in a tomb in the Basilicata near Naples. It came from the Burgon collection, and is now in the British Museum.

Demmin engraves two helmets not unlike this one, which are in the Musée d'Artillerie at Paris. They are described as Greek, and of the period of the decadence.

¹ "Weapons of War," by Auguste Demmin, London, 1870.

The form is not unlike the helmet shown on the coins of Thurium, but with the addition of the cheek pieces; the various lines are beaten up, and the little head of a man in the front has been fixed afterwards.

No. 8. Fig. 5.

Etruscan Bronze Helmet with hinged cheek pieces.

Messrs. Rollin and Feuardent.

There can be but little difficulty in assigning this helmet to the Etruscans.

Belonging to a professional dealer it is difficult to trace its parentage, but we are assisted by other evidence. In the first instance the helmet which follows (and is exactly similar but wanting its cheek pieces) once formed part of the Meyrick collection, and in the South Kensington catalogue was described as coming from the estate of the Prince of Canino, during the excavations made on the site of the ancient Etruscan city of Vulci, (see Dennis' cities and cemeteries of Etruria, vol. i, chap. 29.)

In the same work, vol. ii, p. 103, is the representation of an Etruscan helmet forming part of a suit of armour in the Etruscan Museum at Florence; this suit of armour was found at Orvieto. We have, therefore, three helmets of the same shape, two of which can certainly be traced to Etruria.

In the *Horæ Ferales* Mr Franks gives a drawing of an Etruscan helmet now in the British Museum; it has the same form, *i.e.*, of a reversed pot, but wants the knob at the top and the cheek pieces. On it is this inscription engraved: "Hiero, son of Deinomenes, and the Syracusans (dedicate this) to Jupiter, a Tyrrhene (spoil) from Cuma."

This helmet was found at Olympia by Mr. Cartright; it came subsequently into the possession of George IV., and was presented by him to the British Museum.

No. 9. Fig. 6.

Bronze helmet of unique form found in the Tigris, near the supposed site of the passage of the ten thousand Greeks.

Mr. M. H. Bloxam.

In the *Archæological Journal*, vol. xix, p. 76, will be found a very complete account of this helmet by Mr. Bloxam, its present possessor. It was found by Mr. R. Banner Oakely during a journey up the Tigris, at a spot a little below the town of Til, where the river Sert, the ancient Centrites, joins the Tigris. It may either have belonged to the ten thousand Greeks, who are known to have crossed the Centrites, or to one of the soldiers of Alexander, who traversed the countries bordering on the Euphrates and Tigris.

Mr. Bloxam also tells us that a similar helmet is found on the coins of Eucratides, one of the Greek Bactrian monarchs.

Of the two attributions, that which would assign it to the Macedonian army is, perhaps, most probable; as, in addition to the fact of the coin of

Eueratides presenting the same shape, the petasus form of hat and helmet appears to have been rather a favourite one with the Macedonians. Thus, in the Egyptian Museum at Turin, there is preserved a helmet very like a petasus in form, but unfortunately in a very dilapidated condition. On the neck piece is engraved ΑΛΕΞΑΝΔΡΟΥ ΤΟΥ ΝΙΚΑΝΔΡΟΥ, both common Macedonian names.¹

The Tigris helmet is only another proof of the forms of helmets being taken from felt or skin originals. Here we have the petasus or common travelling hat tied up very very tightly with a string around the head; the large border being thus formed into folds or puckers.

No. 10.

Bronze Helmet found on the estate of the Prince of Canino, with a pair of Greaves (from the Meyrick collection). *Mr. W. Burges.*

This helmet is exactly like the preceding, but wants the cheek pieces, of which, however, the attachments are easily traced.

The helmet and greaves will not be found in Skelton's work, inasmuch as the book was published in 1830, and the Prince had just begun his researches in 1829.

Mr. Dennis, in his work on the Cities and Cemeteries of Etruria, gives a very full account of the discoveries on this site at the end of the first vol., and in vol. xxiii of the *Archæologia*, the Prince himself relates the progress of the excavations, and describes the vases and their inscriptions.

No. 11. Fig. 7.

Helmet: bronze, found in the fens at Hitcham Gavel, of the period of the Roman occupation of Britain. *Mr. T. M. Vivian.*

This must have been a very splendid affair when perfect, as the major part of it is composed of gilt bronze. It is built up of several pieces riveted together upon an iron skull cap.

1. The crown piece. This would appear to have been made of some white metal, probably of the alloy called by the Chinese white copper, and answering to our German silver.

2. The front piece. This is made of thin bronze, and is decorated with two arches made by raised dots; between these was a raised boss.

3. The back part is a counterpart of the front, but on either side, where the two pieces join, are traces of something having been lost. Could these have been horns? Below these are riveted—

4. Two pieces which covered the upper part of the ears.

5. A neck piece upon which there are three bosses.

6. Two cheek pieces, one to the right side being lost. That remaining is very large and has a representation of the ear beaten out, and has been further ornamented with five small bosses of which only the traces remain.

¹ I owe this fact to the kindness of Mr Franks, who gave me his notes and sketch of the helmet in question.

There is a helmet of somewhat similar form in the Musée d'Artillerie at Paris, numbered D. 29. It is there described in the catalogue as belonging to the time of the Lower Empire, and having cheek pieces which cover nearly the whole of the face. The "garniture" is in bronze, the "timbre" in iron, and the crest in bronze. There is a very rude representation of it in Demmin's work.

Mr. Franks is inclined to think that this helmet belonged to some mercenary in the Roman pay towards the end of the Roman occupation of Britain.

W. BURGESS.

European Helmets.

FROM THE FOURTEENTH TO THE SEVENTEENTH CENTURY.

INTRODUCTORY NOTICE.

It is not within the scope of the present notice to deal with the general history and development of the helmet during the Middle Ages and down to the period when defensive armour was finally abandoned. Such notes only will therefore be given as are required to illustrate the very instructive series of headpieces exhibited at the rooms of the Institute, of which a detailed catalogue will be found further on. But, first of all, it may be useful to glance at the history of the study of ancient armour, and to establish the principles upon which it should be conducted.

Collections of ancient arms and armour had been formed as early as the sixteenth century,¹ and the subject was treated of by the President Fauchet in his "Origine des Chevaliers Armories et Heures," published in 1600. Like all first attempts, Fauchet's work whilst containing some valuable matter, is full of errors, and has no pretence to a general treatment of the subject. A more thorough essay was attempted by the learned Jesuit le Pere Daniel in his "Histoire de la Milice Françoise;" whilst the first English treatise devoted entirely to the study of armour appears to be the one written by Grose, who collected a mass of curious and interesting information on the subject. But all these authors had made but little study of the then existing specimens of ancient armour, and Grose would have been quite incompetent to distinguish by their styles between a helmet of the fourteenth and one of the sixteenth century. The series of Kings of England in the Tower, which existed until 1828, is a proof of the state of knowledge at that time.²

Meyrick came next, and by his persevering researches added vastly to our knowledge of armour, but he himself admits that his acquaintance with actually existing armour out of England was small, and some most unaccountable blunders appear in his works, as when, for instance, he attributes his tilting suits of the second half of the sixteenth century to the second half of the fifteenth century.³

His work was, however, the foundation of the present study of

¹ Several of the great foreign princely collections took their origin at that period, and a very curious account has been preserved by Brantôme of the private collection formed by Marshal Strozzi, who died in 1558.—"Si le Marechal Strozzy estoit exquis en belle bibliotheque, il'estoit bien autant en armurerie et en beau cabinet d'armes; car il avoit une grande salle et deux chambres que j'ay veues autresfois à Rome, en son palais in *Burgo*; et ses armes estoient de toutes sortes, tant à cheval qu'à pied, à la françoise, espagnole, italienne, allemande, hongroise, et à la bohémienne; bref de plusieurs autres nations chrestiennes." After describing oriental and classical arms and the engines of war, etc., he says—"J'ay veu depuis

tous ces cabinets à Lyon, on M. Strozzy dernier, son fils, les fit transporter, pour n'avoir este conservez si curieusement, comme je les avois veus à Rome. Aussi je le vis là tout gastez et brouillez, dont j'en eus du deuil au cœur; et c'en est un tres-grand dommage; car ils valioient beaucoup, et un roy les eust seu trop achepter; mais M. Strozzy brouilla et vendit tout; ce que je lui remonstray un jour; car il laissoit telle chose pour cent escus. que en valoit plus de mille."

² Meyrick in his "Critical Inquiry," vol. iii, p. 3, gives a curious account of these figures and the armour on them.

³ Engraved Illustrations, plates iv, v, vi, and vii.

armour, and so great was his authority, that most of his statements and his nomenclature have passed unchallenged to the present day. In France, Allou¹ did little but arrange the materials already existing, but René de Belleval² and more especially Violet-le-Duc³ have made very important researches into the subject. In England, Hewitt's book on armour contains a vast amount of learned research, and Way and Planché both gave much attention to the subject.

For the study of ancient armour to be successfully pursued, it is of primary importance that a careful examination should be made of every existing specimen within our reach. This alone will enable us to derive full profit from our researches into ancient authors and our examination of ancient monuments. Every hole and rivet in a piece must be studied and its use and object thought out. The reasons for the varied forms, thicknesses and structure of the different parts of armour must have special attention. The methods of work by which the pieces were produced, and the nature, quality, hardness, and colour of the metal should all be the subject of close investigation.

This preliminary study will alone enable the student to form a sound opinion on two most important points. First, the authority to be accorded to any given representation of armour in ancient art, for he will then be able to discern whether it was copied from real armour worn at the period, or whether it was the outcome of the artist's imagination. Next, whether a piece of existing armour is genuine or false, and whether or no it be in its primitive condition. The detection of forgeries is a subject that will be discussed further on, but with respect to the first point, it may be noticed that the value of the various representations of armour that have come down to us in works of art is widely different.

Some are clearly copied very faithfully from real armour, others give the general effect without being exact in details, whilst many are wholly conventional and could never have been worn. The fact that at the same period we find the representations of armour in monumental effigies, in miniatures, in brasses and in tapestry have a different character and treatment, is a proof of this statement. As a general rule monumental effigies and brasses are more trustworthy than miniatures, whilst the representations of armour in tapestry are often wholly fanciful. The armour in many of the works of the early painters and engravers bears evidence of having been closely copied from original examples and is proportionately valuable.

Another point which must not be lost sight of is that various fashions of armour prevailed in different countries at the same period,⁴ and even a harness worn in France might be of the Italian fashion or of the German, but certain broad characteristics generally not unconnected with the civil costume of the land, indicate the place to which the fashion of a harness should be assigned. It will also be found that certain forms of armour were in common use in one country long before they became general in another. Thus the armour worn by Bartolomeo Coleoni

¹ "Memoires de la Societe Royale des Antiquaires de France," tome xiii, 1837.

² "Du Costume Militaire des Français en 1446," and his more recent work, "La Panoylie du XV^e au XVIII^e Siecle."

³ "Dictionnaire du Mobilier Français," tomes v and vi, and for Jousting and

Tournament harness, tome ii. The careful studies of real specimens of armour in this work are admirable, the restorations from illuminations in manuscripts must be taken with more reserve.

⁴ The passage from Brantôme quoted in a previous note is a proof of this.

in his statue at Venice executed in 1494 is as far advanced in ornament and decoration as the armour worn in Germany a quarter of a century later. It may instructively be compared with the pure Gothic armour on the monument of Otto von Henneberg dated 1500, of which a cast is at South Kensington. The leg-piece of the statue of Gattamelata at Padua¹ by Donatello would, if found in steel, be taken for work of the Negrolis in the time of Charles V. The Italian medals by Pisano, all executed before 1450, show us knights in full armour as advanced as that worn in France and England forty or fifty years later.² The most striking example of the slowness of some countries to adopt the new fashions occurs in Ireland. So conservative was that country that at the end of the reign of Henry VIII. an Irish gentleman appeared in armour which would have been fashionable at the battle of Crecy, whilst under Queen Bess he had only reached the bassinet with a gorget of plate, such as might have been worn at Agincourt.³

Two circumstances combine to render an exact identification of the various names used for helmets at the time they were worn, with the forms remaining to us either in existing examples or in works of art, exceedingly difficult. In the first place the forms of head piece are so wonderfully varied that the types merge into one another through a vast number of intermediate links. We have bassinets which are almost sallads and some that nearly resemble helms. Some sallads of Italian and German make at the end of the fifteenth century nearly approach the armet, and others at an earlier date are scarcely different from chapels-de-fer, but notwithstanding this the fact must not be lost sight of that certain widely used and well marked types exist, and that the variations being regarded as exceptions we must not confuse ourselves by mistaking them for the true type. The next difficulty is the loose nomenclature which we shall find used by many of the ancient writers. The same name is often used for widely different pieces, but here it is imperative to remember that this confusion of terms is most apparent when the original type had either gone out of use or was but little worn, and it cannot be too strongly insisted on that when a new word appeared a new form had generally been invented, and that consequently the early meaning of the word is the one to be sought and to be adopted as the true one. When the object originally designated by the word had gone out of vogue the name came to be applied to any kind of piece at all resembling it.

¹ Said to have been made in 1432.

² One medal of Sigismundo Pandolfo Malatesta in particular gives a grand full face view of a knight in complete armour. Mr. Planche could not believe that the battle piece by Ucello in the National Gallery was painted before the close of the fifteenth century, because the armour in it does not appear in other countries than Italy before that time. He was probably not aware that the armour in Pisano's medals, all done before 1450, is identical with that in the Ucello picture. Ucello died in 1479, aged 83, and so strong was Planché's view on the subject that he doubted the attribution of the National Gallery picture, ignoring the fact that one of its companions with armour identical in the Uffizzi at Florence is signed

by the master. Planche, "Cyclopædia of Costume," vol. i, p. 284, and Journal of the Archaeological Association, vol. xxxiv, p. 171, where his views are given at length.

³ See "Kilkenny Cathedral," by Graves and Prim, 4to, 1857, in which are representations of the tombs of the Earls of Ormonde and other knights of the sixteenth century. John Grace, who died in 1552, wears a pointed bassinet with a visor, a large camail, and has mail sleeves and gloves of mail, such as were worn in England in the thirteenth century! Richard Butler, who died in 1571, wears a bassinet with a gorget of plate and armour all of plate. The visors of the bassinets are curious, nor is it easy to understand how they worked. See also *Archæological Journal*, vol. iii, p. 165.

The word *sallad* may be cited as an example. The *sallad* proper was possibly invented in the fourteenth century, but in the fifteenth century it came into widespread and general use, and its vogue ended with that century. In the writings of authors of the fifteenth century we shall rarely find the word misused, and we shall know that it refers to a particular form of helmet, another word, as *bassinet*, *heaume*, *armet*, *chapel*, being used if another form is meant. But in the sixteenth and seventeenth centuries, when the true *sallad* was no longer worn, the word is used for almost any kind of helmet. Bellon in 1641, describing the armament of cavalry under Louis XIII, and doubtless meaning a "lobster tail" helmet of the type of Fig. 97 in this catalogue, says, "*avec la salade dont la visière se lève en haut et fait une belle monstre.*" Pluvinel in his work on horsemanship, written for the instruction of Louis XIII, calls the close helmet of the tilting suits of his day a "*salade*," and his plate shows how clearly it differed from a true *sallad*. In a book on heraldry in the author's possession, printed in 1581, three heraldic barred helms are called "*trois salades*," and Brantôme continually uses the same word for almost any kind of helmet, mentioning his own "*salade*" in his will amongst the arms he wishes to be hung after his death in the chapel of the Château de Richemont.¹

In the same way the word *bassinet* recurs constantly in the second half of the fifteenth century in accounts of fights on foot, and means a quite different kind of head piece from the *bassinet* of Froissart. This explains the misconception which has so long reigned in England as to the real meaning of the word *bevor*, or in its older form *bavier*, which all through the fifteenth, and the early part of the sixteenth centuries, most clearly meant a guard for the lower part of the face, but in Shakespeare's time was used for the visor of a close helmet, and even in poetry for the whole helmet; and as armour gradually went out of use, the confusion of terms became greater and greater.

Pasquier, at the end of the sixteenth century, already laments, "*Ce que nos anciens appellerent heaume on l'appela sous François I^{er} armet; nous le nommons maintenant habillement de teste, qui est une vraye sottise de dire par trois parolles ce qu'une seule nous donnoit.*"

BASSINET.

So much has been written on the history of the *bassinet*, so many varieties of it have been engraved in different works from brasses and monumental effigies, and the notices that will be found further on of the examples exhibited are so detailed, that it would be useless repetition to do more than glance at its origin and development and then inquire into a form of it which has not as yet been studied.

The name (derived from the old French for a *bason*) sufficiently indicates that in its origin the *bassinet* was a hemispherical head-piece, and it first appears in documents in the latter part of the thirteenth century.

It was found that a heavy blow from an axe or sword would fracture the skull under a coif of mail, however well wadded, and this steel cap

¹ Œuvres de Brantôme, tome i, page 88, Éd. de 1779.

was therefore put over it to distribute the force of a blow over the whole of the surface of the top of the head, besides which many blows would glance off its polished surface.¹

In the fourteenth century, either because the new form was still better calculated to deflect a blow, or perhaps on account of the great vogue of the pointed arch in art work, we find the summit of the bassinet assumes a beautiful pointed form.² The cap of mail, too, ceases to exist under it, and only a curtain of mail is retained to protect the neck, cheeks, and chin. This curtain of mail which was hung to the helmet in various ways and which spread over the shoulders like a small cape was called a *camail*. Such was the helmet used almost throughout Europe during the fourteenth century, varying slightly in form, but beautiful in outline and often richly adorned. Froissart relates that the bassinet of the King of Castille in 1385, "avoit une cercele d'or ouvrage sus de pierres precieuses qui bien valoient vingt mille francs," and the accounts of the "argenter" of the King of France, Etienne de la Fontaine, show how splendidly royal bassinets were sometimes adorned. These have all vanished and even plain bassinets are of very great rarity.

The face not being entirely protected by the bassinet, a large helm was often worn over it on the field of battle. This helm was not a new invention, having been used with the mail coif before the introduction of the bassinet. It was, however, soon found so troublesome and cumbersome that a variety of attempts were made in the course of the fourteenth century to adapt a movable visor to the bassinet, and thus do away with the second head piece. That visor ultimately took a salient and beaked form of great resisting power, and was fixed to the hinges at the sides of the head piece with pins, so that it could be removed at will.³ This form of visor was in general use about the beginning of the fifteenth century, the big helm only being used (without any under helmet) for tilts and tournaments. The next improvement was to substitute a high collar of steel for the *camail*, thus relieving the head of the weight of the latter and allowing much more freedom in turning the head about. Then in the middle of the fifteenth century the summit of this head piece gradually gets rounder, and it makes way for the *sallad* and for the *arnet* into which it would seem to merge through a variety of gradations.

But the history of the bassinet does not, as is usually supposed, end with the middle of the fifteenth century. The original form of head piece known by that name had, it is true, disappeared,⁴ but from 1443 down nearly to the end of the century, the bassinet recurs constantly in all the numerous accounts that have been preserved of the "*pas d'armes à pied*" or "*armes on foot*" with axes and swords which were so fashionable at that period. "*Il estiot armé pour combattre à pied, le bacinet en la teste, à visiere levée,*" says Olivier de la Marche.⁵

For a while Jacques de Lalain introduced the fashion of fighting in *sallads* as will be shown later, but even after that the bassinet often recurs, as when in 1467 "the Lorde of Scales stroke the Bastarde of

¹ The slab of Sir John de Botiler, circa A.D. 1285 shows the bason shaped form of the bassinet. Routell's "Monumental Brasses and Slabs, 1847," page 159.

² See Fig. 9 in the plates of this

catalogue.

³ See Fig. 12.

⁴ Except in Ireland as has already been observed.

⁵ Page 203 Ed. of 1616.

Burgon in the side of the visern of his basnet,"¹ and it will be found as a general rule that when the combat was on foot the head piece worn (which is almost always referred to) was the bassinet; when it was a course on horseback in war harness either with sharp or blunted lances armets are mentioned; whilst if the course was a joust, that is to say run in the special jousting harness with a coronal at the end of the lance, then it is the helm or heaume that is used.

On one occasion we learn that Messire Jean de Bonniface attempted to fight on foot with axes, wearing an "arnet d' Italie," but to his cost "il se trouva mal asseurement arme de la teste pour combattre à pied," and Jacques de Lalain threw him by getting the point of his axe into the opening at the back of his adversary's arnet.²

The question then arises, what was this bassinet so generally worn on foot in the second half of the fifteenth century and with what form of helmet can we identify it? The numerous references to its construction show that it had a movable visor. We continually read "le bacinet en teste la visière close" and "le bacinet en teste la visière levée." We also find that this visor could easily be removed, as when the Seigneur de Haubourdin being informed of the "subtilite" of the axe "à bec de faucon" of his adversary which had a "dague de dessons longue et delie, et de façon telle qu'elle pouvoit legerement entrer es trous de la visière d'un bacinet et de sa longueur pouvoit porter grand dommage au visage de son compagnon," says "qu'il ne donneroit pas à son compagnon tant de peine, que de percer la visière de son bacinet" and he "prestemment le fit declouer et oster de tout point, si que le visage lui demoura tout descouvert."³ On another occasion, "avoit le dict Messire Pietre fait desclouer et oster la visière de son bacinet, tellement qu'il avoit tout le visage descouvert, et mettoit sa teste hors de son bacinet, comme par une fenestre."⁴

It was sometimes worn with a bavier to it as well as a visor. "L'Anglois issit de son pavillon armé de tout harnas, grand bassinet à bavrière et visière fermee," but this big bassinet did not save him, for Jacques de Lalain armed according to his wont with a sallad (but on this occasion "sans gorgerin et sans bavrière,") "moult vivement prit ledit Anglois par la coupe de son bassinet⁵ de l'une de ses mains, et de l'autre par le bras senestre, si le tira par terre par telle force, qu'il chut le visage dessous si rudement que la visiere d'icelui bassinet entra dedans le sablon."⁶

The bassinet, however, was regarded as the safest head piece a man could fight in, and on one occasion Jacques de Lalain having to fight with "espées d'estoc" (or *feining* swords as they are termed in the account of the fight between the Lord of Scales and the Bastard of Burgundy), Olivier de la Marche says, "de son chef il estoit armé d'un bacinet à grande visière laquelle il avoit close, et fut la première et seule fois que ledit Messire Jacques combattoit oncques le visage couvert, mais les armés de l'estoc, férus et sans rabat, desiroient seurete de harnois, comme chacun qui cognoit le noble mestier d'armes le peut legerement entendre."⁷

¹ "Excerpta Historica," by Samuel Bentley, 1831, p. 211. These "armes" are there wrongly called a Tournament.

² Olivier de la Marche, "Memoires," Ed. 1616, p. 304. See also Introduction to Armet.

³ Olivier de la Marche, pp. 285-6.

⁴ Olivier de la Marche, p. 183.

⁵ Olivier de la Marche gives a very detailed account of this fight but says, "de la main dextre le prit par le gros du bacinet."

⁶ Georges Chastelain, "Chronique de J. de Lalain," Ed. Buchon, p. 668.

⁷ Olivier de la Marche, p. 321.

His adversary, a Savoyard, "estoit armé de la teste d'un armet a la façon d'Italie, arme de sa grande bavière" and it is presumable that the armet did not offer the same disadvantages in fighting with the sword that have been referred to in a combat with axes. The point of the sword could not easily get round to the opening at the back, the weak point of the early armet.

Now, the question still remains, what was this bassinet so repeatedly mentioned in accounts of combats on foot in the second half of the fifteenth century? It must be particularly noted that *never* is it referred to as being used on horseback; also that it is found in English texts as well as in French, as for instance in the Landsdown MS. transcribed by Bentley,¹ where, as before mentioned, the Bastard of Burgundy wears a "basnet" in his fight with the Lord of Scales; also in the Astley MS. to be referred to hereafter.

At first one might be tempted to think that the beaked bassinet with a steel collar survived for these combats after it had gone out of use on the battle-field, and there is nothing in the texts quoted seriously to oppose this theory. But against it is the fact that no such helmet is represented in any document of the period. What then is the head piece depicted in the few representations that remain of such combats? There is the French illuminated manuscript in the National Library at Paris entitled "Céramonies des Gages de Bataille" evidently dating from the second half of the fifteenth century.² In this the champions wear a large kind of helm with an almost spherical crown piece, which helm comes down to the cuirass to which it appears firmly fixed, having consequently no independent motion with the head, but apparently large enough for the head to move about freely inside it. The visor is salient in curve, large, and pierced with a number of small apertures so that in whatsoever direction the wearer looks he may be able to see out of it. There is also the Cotton MS., Julius E 4, containing a representation of a combat (much after the style of those described by Olivier de la Marche) between Richard Beauchamp Earl of Warwick and Sir Pandolf Malacet at Verona in 1408.³ The style of this MS. shows that it was executed in the second half of the fifteenth century, and the helmets worn here are not unlike those in the "Céramonies des Gages de Bataille" in type. The nearest approach to these helmets in the exhibition was No. 80, fig. 78 of this catalogue, and its visor was so thick and the outward curve of it so bold that the hardest thrust of a stiff foining sword, or of an axe point, would have had no effect on it. Another very fine example hangs in Wimborne Minster, over the tomb of John Beaufort, Duke of Somerset.⁴

But the conclusive proof that such is the form of helmet which in the second half of the fifteenth century was described as a bassinet, is furnished by the Astley MS., transcribed in the fourth volume of the *Archæological Journal*⁵ by Way and entitled, "How a man schalle be armyd at his ese when he schal fighte on foote." In that text the head piece to be worn is thus described:—"And then his basinet

¹ "Excerpta Historia," p. 211.

² In Lacroix's "Vie Militaire et Religieuse au Moyen Age" will be found a copy of one of the miniatures of this MS.

³ *Archæological Journal*, vol. i, p. 287.

⁴ See Blore's "Monumental Remains." This fine piece was exhibited at a recent meeting of the Royal Archæological Institute, and will shortly be engraved.

⁵ P. 226.

pynnid upon two greet staplis before the breste, with a dowbille bokille behynde upon the bak for to make the basinet sitte juste," and if we turn to the illustration at the beginning of the paper copied from an illumination in the MS. (which dates from the second half of the fifteenth century) we shall see just such a helmet as Fig. 78 represented lying on the table. The helmet Fig. 78 has two holes for the "great staplis before," and a similar staple secured it behind so that it might "sitte juste," and both in it and the one in Wimborne Minster the visor is fixed to its hinges with movable pins so that it could easily be taken off. We may therefore be justified in assuming that in the second half of the fifteenth century the oft-recurring word bassinet meant a helmet of this type, which will be found to tally with all the texts given above. Nor was it so far removed from the bassinet with a rounded crown and a chin piece rivetted on to it, like the one in the effigy of John Fitz Allen Earl of Arundel engraved by Stothard,¹ of which it was probably the direct descendant.

Several suits, evidently made for fighting on foot exist at Vienna, Madrid, and Paris. They generally have a helmet similar in type to Fig. 78, large shoulder guards (the right and left being of equal size) and a steel skirt. Some of them certainly are as late in date as 1530. There is also a fine one in the Tower ascribed to Henry VIII.

In 1517 we still find the bassinet associated with fighting on foot, the first prize for that exercise at a tournament held at Nancy on the 8th of October of that year being thus described, "et pour le combat à pied, le venant qui combatra le mieux aura un bassinet d'or de cinq cens escus ou au dessous,"²

SALLAD.

In "Chaucer's Dreame"³ we read--

Ne horse, ne male, trusse, ne baggage,
Salad ne speare, gardebrace ne page."

and two derivations have been ascribed to the word sallad, and two forms of helmet distinct in their origin and names would appear ultimately to have been described by that word.

These were the Italian "celata" apparently in its origin a modification of the bassinet and the German "schalern," the tailed sallad with a slit for the eyes--in its origin probably a modification of the chapel-de-fer.

Both arose in the course of the fourteenth century and the similarity of their names caused them to be more or less identified by the French under the name of *salade* whence our English *sallad* or *sallet*. A variety of early and beautiful forms of *celata*⁴ may be seen in Avanzo's frescos in the Chapel of St. George at Padua⁵ executed about 1384, and they bear

¹ "Monumental Effigies," plate 119, ed. of 1876. This monument is exceedingly interesting as being the only one I am acquainted with which shows the construction of those ovoid bassinets with chin pieces rivetted on to them so common in brasses of from 1430 to 1450. John Fitz Allen died in 1434.

² Marc Vulson, Sieur de la Colombière, "Le Vray Theatre d'Honneur et de Chevalrie," 1648, p. 217. This work contains a vast amount of information on

the various forms of combat now usually included in the word tournament.

³ Urry's Chaucer, p. 582. It must be mentioned that the best authorities consider this poem not to be by Chaucer, but to date from the fifteenth century.

⁴ Supposed to be derived from "celare" to conceal.

⁵ Ernest Förster, "Der Wandgemälde der S. Georgen-Kapelle zu Padua. Berlin, 1841."

all the appearance of having been drawn from real examples. The bassinet at this time was a small ovoid head piece completed by a camail, and when not worn with a visor, it left nearly the whole face exposed. The celata coming lower protected the back and sides of the neck, and closing round the cheeks, often only left the eyes, nose, and mouth exposed.¹ The camail (which must have dragged heavily on the head) thus became unnecessary, a standard of mail protecting the neck if required, and the celata thus allowed much more freedom in moving the head about than the bassinet with its camail.

In the fifteenth century the celata ceased to be pointed at its summit, was slightly curved outwards at the nape of the neck, and assumed that graceful form seen in so much Italian painting and sculpture during the fifteenth century.

The sculptures of the arch of Alphonso of Aragon at Naples, his medal by Pisano, and Paolo Ucello's pictures, may be cited as giving numerous and beautiful varieties of this graceful head piece, which was sometimes made to resemble the Greek Hoplite helmet.² Figs. 14, 15 and 16 of this catalogue belong to the Celata type, whilst 29 is a very late example of the same character.

The German form on the other hand called Schalern, from "schale," a shell or bowl,³ is characterised by a more or less projecting brim and a long tail. It would seem to be derived from the chapel-de-fer, or iron hat, as a chapel large enough to cover the upper part of the face and with a slit cut in it to see through, would much resemble the earliest known forms of German sallads.⁴ Those worn by two knights tilting at one another on a painted shield in the Musée d'Artillerie may be cited as examples, and the same collection possesses an actual sallad of almost identical form.⁵ In these the brim projects nearly equally all round, in fact, in the actual example, rather more in front than behind, whilst at a later period the front part becomes very much flatter than the back, where the brim is drawn out into a long pointed tail. Figs. 19 to 24 are all specimens of this kind. The sallads which appear on monumental brasses and effigies

¹ Some very strange helmets not apparently unrelated to the early celata were found in 1841 in a cistern of the citadel of Chalcis in Eubœa. A few of them are engraved by Hefner, "Trachten," pl. 63.

² Towards the year 1500 some Italian sallads have ribbed visors to them. Suttner in "Der Helm" has engraved a very fine one at Erbach. Several are in the Musée d'Artillerie, but they are always rare pieces.

³ Mr. Hewitt in his paper on sallads in the *Archæological Journal*, vol. xxvi, p. 20, says, "Meyrick, in his 'Critical Inquiry,' suggests that 'the name had its origin from the German word schale implying a shell' (Glossary voce Salett, ed. 1842); but at p. 94, vol. ii, of the same edition he proposes 'a cup,' and at p. 116 of the same volume he refers the derivation to 'a saucer.' The rival claims of a shell, a cup, and a saucer, we must leave to our readers to adjust, and shall not be surprised if they find no resemblance to

any of the three."

Had Mr. Hewitt consulted his German Dictionary he would have found that "schale" means shell, peel or bark, that is to say shell as of a nut (cortex), as distinguished from a sea shell (concha for which there is a distinct word), and that figuratively it is used for a cup, dish or bowl. A closely fitting head piece on a man's head might well be likened to the shell of a nut, nor were some sallads so very unlike bowls, consequently Meyrick did not exactly merit Mr. Hewitt's somewhat off hand criticism.

⁴ Lord Londesborough and Prince Charles of Prussia both have sallads which seem the connecting link, but are they authentic? The author has only seen engravings of them. A real one somewhat like them exists on the suit No. 1 in the Brussels collection, but it is of finer form.

⁵ Both the figures and the sallad are engraved by Viollet-le-Duc, "Mobilier," tome ii, pp. 375-6.

in England also belong to the German type. The front part was sometimes movable, and formed a visor, and in a few examples the tail piece is jointed, to enable the head piece to be thrown back, more easily when the face was to be uncovered.

It would seem that one of the greatest champions of his day, Jacques de Lalain, did much to bring the sallad into fashion, at least for "pas d'armes" on foot. When he began to fight on foot—bassinets, as we have seen, being the head piece worn—he always had the visor removed. He fought James Douglas in Scotland, and we learn that "il combattoit sans visière et à visage decouvert;" whilst "celui Messire James combattoit en bassinet la visière fermée et ledit de Lalain estoit sans visière parquoi il avoit son haleine tout à delivre,¹ et celui Messire James avoit tout le contraire; et bien y parut, après que le roy eut jeté le bâton quand on lui leva sa visière."² As wrestling was often resorted to in these fights on foot, Jacques de Lalain found he could keep his wind much better with his face uncovered, and although at first his opponents sought to wound him in the face (as when "Messire Douglas moult ire moult vivement et tôt prit sa dague si en cuida ferire Messire Jacques au visage,") yet so skilled was Messire Jacques that he never received any wound in the face. We find him next fighting the Englishman referred to in the notice on the bassinet, wearing "une petite sallade de guerre toute ronde et avoit le visage et le col tout decouvert,"³ and "l'Anglois feroit de toute sa force après le dict Messire Jacques, et feroit de mail, de taille, et d'estoc après le visage qu'il voyait nud et decouvert." It has already been related how the fight ended, but the whole account is well worth reading, as it gives a wonderful idea of these combats. After this (except on the one occasion already referred to, when he fought with an "estoc") we always find Messire Jacques fighting in a sallad sometimes with a "haussecol de maille" and sometimes with a "bavière" and soon his adversaries begin to follow his example. Gérard de Roussillon enters the lists in a bassinet, but "pource que ledit Gerard estoit averty que le dict Messire Jacques combattoit communément en salade, et en haussecol de maille, il se pourvut d'une salade ronde, et d'un haussecol de maille et s'enarma."⁴

In Chastelain's account of the same fight, it is added that this sallad was "un chapeau de fer d'ancienne façon, qu'on avoit approprié pour ce faire,"⁵ a sort of impromptu sallad made out of an old chapel-de-fer. So far did Jacques de Lalain carry his innovations on established customs, that on a number of occasions he appeared in combats with axes, with his dexter leg unarmed. Chastelain says, "il combattit le chevalier du pas en tel harnas qu'il avoit accoutume sauf qu'il n'avoit point de harnas de jambe en sa dextre jambe,"⁶ and Olivier de la Marche who was present on the occasion says, "et me souvient que l'entrepreneur estoit armé et paré, comme aux autres fois, qu'il combattit de la hache en celuy pas, réservé qu'il n'estoit point arme de la jambe, ne de la cuisse droicte, et me fut dict depuis qu'il le faisoit pour estre plus à son delivre,⁷ et si son compagnon le joindoit au corps,"⁸ and so he continued to fight until the end of the celebrated pas de la Fontaine des Pleurs, on one occasion even discarding

¹ Old French for libre, free, unembarrassed.

² G. Chastelain, p. 665.

³ Olivier de la Marche, p. 282.

⁴ Olivier de la Marche, p. 307.

⁵ P. 679.

⁶ P. 684.

⁷ More at liberty.

⁸ P. 324.

his dexter gauntlet. The sallad seems to have come into great favour in France. A writer of the period describing the armour worn there in 1466-8, says "la tierce armeure" (de teste) "et la plus comune et la meilleure a mon semblant est l'armeure de teste qui se appelle sallades."¹ The other two head pieces he mentions are the "biquoque," probably one of the many forms of helmet derived from the bassinet (which he says it resembled), and the chapeau de Montauban, his account of which will be quoted in its proper place. The sallad was completed by a chin piece, fastened to the breastplate and strapped round the neck, called a bavier, of which more anon. The sallad appears to have remained longer in use in Germany than elsewhere. In the picture at Hampton Court of the meeting of Henry VIII and Maximilian, a number of the German knights are armed with the sallad, whilst all the English have armets.

The forms of sallad used for tilting will be referred to under Nos. 29 and 32 of the catalogue.

Sallads were often very richly decorated. One sallad alone, out of a number of "divers harnois de teste garnis et adjolivez de perles de diamants et de balais,² a merveiles richement," carried by the pages of the Duke of Burgundy in 1443, was valued at 100,000 crowns of gold,³ whilst Duclercq attributes the same value to one worn by Louis XI on his entry into Paris. He also speaks of archer's head pieces, "tout garnis d'argent,"⁴ and in describing the celebrated compagnies d'ordonnance of Charles VII, he says each man at arms had "ses sallades et espées garnies d'argent."⁵ In 1455 the Queen of France having paid for the equipment of three men at arms, 1 marc 7 ounces and 7½ gros of silver was employed for making the ornaments of the three sallads.⁶

In the privy purse expenses of Henry VII⁷ are these entries, "Delivered by the King's commandment for diverse peces of cloth of gold, and for certain and many precyous stones and riche perlis bought of Lambardes for the garnyshing of salades, shapues,⁸ and helemys agenst the King's noble voyage, £3,800," and later, "To John Vandelf for garnyshing of a salett, £38 ls. 4d." Also, "To the Quene's grace for garnyshing a salett, £10," probably a little souvenir for her husband, who was then planning an expedition to Scotland.

BAVIER OR BEVOR.

The sallad alone, at least the form of it used in Germany, France, and England, did not cover the lower part of the face, and it was often accompanied by a piece of armour which at its upper edge fitted inside the sallad whilst its lower plates reached to the breastplate to which it was in many instances fixed, though at times it would seem only to have been strapped round the gorget. Figs. 20, 22, 25, and 27 will show clearly the nature of the piece in question, which has always been regarded by foreign antiquaries as being the "bavière," in English bavier or bevor, which so repeatedly occurs in the texts of the fifteenth century in con-

¹ René de Belleval "Costume Militaire des Francais en 1446" (p. 2) contains a transcript of this MS.

² Rubies.

³ Oliver de la Marche, p. 211.

⁴ Buchon's edit., p. 15.

⁵ P. 25.

⁶ Vallet, "Histoire de Charles VII."

⁷ Bentley's "Excepta Historica," pp. 90 and 112.

⁸ Wrongly transcribed "shapnes" by Bentley; it means chapeaus, or chapels-de-fer.

nection with the sallad. But archæologists in this country, founding their view on some texts of Shakespeare, have regarded the word bevor as almost synonymous with visor, and have therefore sought to identify the piece just described with some other name. Sometimes it has been called "mentonnière," a word which the author believes did not exist at the time when the piece was in use, at least he has not found it in any fifteenth century texts, and Littré does not include it in his dictionary, whilst Planché sought to identify it with the "haussecol" which occurs repeatedly, but which it will be shown was quite a different thing.

Grose started with a mistaken derivation of the word, and the texts of Shakespeare, who uses the word in a most elastic way, completed the misconception. Grose¹ says, "Bevor from beveur; drinker, or from the Italian bevare, to drink," forgetting that in its original form it was spelt bavier, French, "bavière," Italian, "baviera," and is derived from the French "baver," to slobber. If we look at the conformation of the piece, we shall at once see how apt was its name, "bavière," or slobberer.² Let us now turn to the texts of Shakespeare. "He wore his *beaver* up."—"Hamlet," act i, sc. 2. "Their *beavers* down; their eyes of fire sparkling through sights of steel."—"Henry IV," pt. 2, act iv, sc. 1. "I saw young Harry with his *beaver* on."—"Henry IV," pt. 1, act iv, sc. 2. "What, is my *beaver* easier than it was?"—"Richard III," act v, sc. 3.

It is not for a moment to be denied that at the time when Shakespeare wrote, and perhaps even earlier, the word beaver was used for the visor of a close helmet,³ but the loose way in which the poet uses the word, making it as often stand for the whole helmet as for a part of it, shows that we cannot deduce a very accurate definition from his texts. In his day the actual piece of armour for which it is maintained the word was invented had ceased to exist (the latter form of separate chin piece being called a buffe),⁴ and it has been shown in the introduction how the word sallad came to be used for almost any helmet as soon as the piece for which the name was originated had gone out of use. In the same way when the chin piece of the sallad disappeared, the word which had been invented to describe it remained and was used for a somewhat similar part of the helmet then worn. That does not prevent, however, the fact that we ought rather to seek for the original meaning of the word than a late and corrupt one, or at the very least we should let the piece of armour for which the word was coined have the benefit of it.

Let us now do away with the false names that have been given to the piece in question. Mentonniere is a word which did not exist when the piece was in use, and consequently will not do. Haussecol it could not be, for in the fifteenth century we generally find the haussecol described as being of mail. "Sallade et haussecol de maille" occurs continually, and will

¹ "Ancient Armour," page 8.

² "Etre en bavière," was formerly used to denote a condition of salivation brought about by a certain medical treatment. See Littré, "Supplément au Dictionnaire."

³ Hall appears to use it in the same sense: "The Duke of Hertford was quickly horsed and closed his bavier and caste his spere."

⁴ Holland classes the beaver and the buffe together. "Others furnished their

head pieces, buffes and beavers." This, in conjunction with many other texts, shows that the beaver was a separate piece and not a part of the helmet. We read in the account of the combat between the Lord Scales and the Bastard of Burgundy that after tilting "the Lorde Scales voided speare bavioure and garde-brase and the garde of his wambrace," in other words his tilting pieces before fighting on foot.

be found in several of the texts quoted in the notice on the sallad. Chastelain also calls it "houcot de mailles." It was what in England is called a standard of mail, and in one case we read of "le chamail du haussecol,"¹ the camail or cape of the standard. The haussecol was very like the gorget, but, as its name implies, higher. Fauchet says, "Ils avoient aussi une gorgière, que nous appelons haussecol,"² and the little metal gorget worn until quite recently by French officers when on duty, and which was a descendant of the steel gorget worn over the buff coat in the seventeenth century, preserved the name of haussecol.

The word bavier first appears in the fourteenth century, and at the same time we find representations of chin pieces of plate adapted to the bassinet. Meyrick quotes a portion of the "Romance of Clariodes," and there is a passage in it which is the fullest confirmation of the views expressed above as to the derivation and original meaning of the word.³

"Upon the hede a basenet of stele,
That within was locked wonder wele
O crafty sight wrought in the viser:
And some wold have of plate a *bavier*;
That *on the breste* fastened be aforne,
The canell-piece more easy to be borne."

Now, here we have the original spelling of the word in conformity with its deviation from "bave," slobber, and we also find it quite independent of the visor, and fastened on to the front of the breastplate. In the fifteenth century the notices of it are innumerable, and all point to the same identification. It is always distinct from the visor. A passage was quoted in the notice on the sallad in which "grand bassinet a bavière et visière fermée" occurs. Again "Issit hors de son pavillon le Seigneur d'Espiry la cotte d'armes vêtue, salade en tête, ayant bavière et visière."⁴ To prove there is no mistake here, we have another account of the same head piece, "le Seigneur d'Espiry avoit une salade a visière, et courte bavière."⁵ Being short-sighted, the Seigneur d'Espiry "s'arresta, et prit la visière de la salade, de sa main dextre et l'arracha hors de la salade, et le jeta loin de lui en arrière, et demoura le *visage moult fort decouvert*" consequently the bevor did not cover much of his face.⁶ Besides the "courte bavière," which occurs in more than one text, we find "salade a haute bavière." Now, these adjectives, high and low, apply perfectly to our piece but will not in the least apply to a visor.

The high bevor covered the face up to the eyes and was worn with the chapel-de-fer, "Et celui Pitois avoit un harnas de tete qui n'etoit ni bassinet ni salade, mais etoit fait a la semblance et maniere d'un capel de fer . . . et avoit une haute bavière, tellement que de son viaire" (face)

¹ Olivier de la Marche, p. 325.

² "Origine des Chevaliers, Armories et Héraux." Paris, 1606.

³ "Critical Inquiry," vol. ii, p. 78.

⁴ Chastelain, p. 683.

⁵ Olivier de la Marche, p. 317.

⁶ There is also the often quoted Brauder MS. of the first year of Edward VI., which speaks of "At Calis sallets with vysars and bevers—sallets with bevers,—At

Hampton Court, old sallets with vizards," showing that the sallad could either have a visor like Fig. 24, or having no visor could have a bevor like Fig. 20, or could have both. Now, no one has explained what a "sallet with vysar and bever" was unless it was a combination of the two pieces, Figs. 24 and 25, or else the author used the word sallet for the close helmet and not for the true sallad at all.

"il n'apparoît que les yeux."¹ The "bavière" occurs continually with the armet, and that form of it will be spoken of in the notice of the armet. It is also found with the barbute and will be referred to under that head.

We have seen that the "haute bavière" covered the face up to the eyes, so the "courte bavière" covered only the chin up to the mouth, the sallad being deep enough to meet it when drawn down over the eyes. In the contemporary account already quoted of the armour worn in France in 1446-8 we read that the men-at-arms wore "salade à visiere et une petite bavière qui ne couvrent que le menton," and further on that the "visiere quant elle est abessée recouvre les yeulx, le nés et la bouche."

Nothing could be clearer. The position of the bavier, however, is further settled by Philippe de Commines in his account of the wound received by the Comte de Charolais at the battle of Montlehéry, of which he was an eye-witness. "Et là le dit Conte fut en très grand dangier, et eut plusieurs coups, et entre les autres ung à la gorge d'une espée . . . par default de sa bavière qui lui estoit cheute et avoit esté mal attachée dès le matin : et lui avoit veu cheoir."³ De Commines himself saw the bavier fall and the position of the wound is confirmed by Oliver de la Marche, who says : "Quant au Comte de Charolois, combien qu'il fut blessé en le senestre partie de son col, et de poinete d'espée toutefois il ralia ses gens."⁴

Jean d'Auton in his "Chronique de Louis XII," relates that, "Jehan Stuari, duc d'Albanie, eut là un coup de traict d'un arc turquois, duquel fut sa bavière faulcée, avec sa gorgerette, tout au travers, et lui ataint jusques au sang," showing that the bavier was placed over the gorget.

It would be easy to multiply these texts, but enough have been given to show clearly the nature of the bavier and to no other piece in common use when they were written will they apply but the one with which it is here identified.

CHAPEL-DE-FER.

The chapel-de-fer, or, as it would seem to have been called in English, chapewe⁵ is peculiar in that it remained longer in use than any other form of helmet. It is mentioned in statutes from the end of the twelfth century, and early in the thirteenth it appears in the sculptures of the Chapel of St. Maurice in the Cathedral of Constance.⁶ Joinville mentions it repeatedly, and in art and literature it recurs continually through the fourteenth and fifteenth centuries. In the sixteenth it loses its name and with a change in form becomes the morion and cabasset, whilst in the seventeenth it returns more to the form of a hat in the pikeman's helmet, and an iron hat imitating the felt hat of the period is ascribed

¹ Chastelain, p. 687. Chapels-de-fer continually appear in paintings in MSS. and in sculpture with the chin piece here identified with the bevor.

² René de Belleval, "Costume Militaire des Français, en 1446," p. 122.

³ "Mémoires de Commines," livre i, chapitre 4.

⁴ Page 472.

⁵ Berners translates the passage quoted from Froissart further on thus, "a chapewe of Montaban, bright and clere shynyng agaynst the sonne," and Grafton calls it a "chapeau."

⁶ Hefner, "Trachten," vol. i, plates 4 and 5.

in the Musée d'Artillerie to the "maison du roy" of Louis XIV. Perhaps the very long vogue of the iron hat was due to its nature. It was a light head piece easily put on and taken off, it allowed great freedom of motion to the head and its broad brim formed a fairly efficient protection to the face. From the time of Froissart, who describes "un chapel de Montauban, fin, cler et net, tout d'acier, qui resplendissoit au soleil," down to that of Grafton, who says, "on his hedde a chapeau Montabin with a rich coronal, the fold of the chapeau was lined with crimsen satten,"² the variety of chapel most in favour would seem to have been the one called a chapel de Montauban, but whether it was so named merely from the excellence of those made at Montauban or from some distinctive shape is not clear.

The contemporary author before quoted who describes the armour worn in France in 1446-8 says, "Item et les chappeaulx de Montaulban sont rons en teste à une creste au meilleu qui vait tout du long, de la haulteur de deux doiz, et tout autour y a ung avantal de quatre ou cinq doiz de large en forme et maniere d'un chapeau."³

Few early chapels remain. Hefner has engraved a fine example in his own collection,⁴ and Demmin says a similar one exists at Copenhagen.⁵

The two exhibited at the Institute, Nos. 98 and 99, Figs. 98 and 99, probably dated from the first years of the sixteenth century. For morion and cabasset the reader is referred to the notices given further on of the examples shown at the exhibition of helmets.

BARBUTE.

Before leaving those helmets which belong equally to the fourteenth and fifteenth centuries, it is necessary to refer to a headpiece, about the identification of which much uncertainty yet exists, and that is the one called *Barbute* in Italian and *Barbute* in French. Ducauge has clearly shown that in Italy in the fourteenth century the word *barbute* was used (very much as "lance" was in France), to indicate a man at arms, 1000 *barbute* meaning 1000 men at arms. But it no doubt also meant some form of helmet, and later perhaps a portion of a helmet. When we endeavour to determine exactly what manner of helmet it originally meant, we meet with many difficulties. The best plan will be to give some texts concerning it, proceeding as nearly as possible in order of date. In a will dated 1349 occurs, "Placcas, corellum, gurgeriam, *barbutam*," &c.;⁶ Article 22 of the Statutes of the Order of the Saint Esprit, instituted at Naples in 1352, has "Item se aucuns desdits compaignons se trovoient en aucun fait d'armes la où le nombre de leurs ennemis feussent ccc *barbues* ou plus."⁷ Cereta, in his Veronese Chronicle, states that Bernabo Visconti lord of Milan attacked Verona in 1354 with 800 *barbute*.

¹ Catalogue of 1875, H. 152, and Demmin "Guide des Amateurs d'Armes," p. 283, No. 114.

² Henry VIII, ann 5. Exactly such a chapeau, coronal, fold and all, is represented in a portrait of Phillip the Fair, father of Charles V (d. 1506) in the Brussels gallery. In form it precisely resembles Fig. 99.

³ Rene de Belleval, "Costume Militaire de Français, en 1446," p. 2.

⁴ "Trachten," vol. ii, Plate 83.

⁵ "Guide des Amateurs d'Armes," p. 283, No. 83.

⁶ Meyrick, "Critical Inquiry," vol. i, p. 555.

⁷ Montfaucon, "Monuments," &c., tome ii, p. 340.

Matteo Villani, relating the way in which Jean II (the Good) King of France, in 1356, took Charles II (the Bad) King of Navarre prisoner in the castle of Rouen, says, "e seguendo il Re (di Francia) co'suoi cavalieri armati entrò nel palagio, ov'era il Re di Navarra e'l Delfino e'l Conti di Ricorti (Harcourt) con quattro cavalieri Banderesi di Normandia . . . ed essendo junto innanzi il cavaliere e appena compiuto di favellare al Delfino il Re di Francia armato colla barbute in testa . . . comandò che alcuno non si movesse."¹

Giovanni Villani says that the allies of the Duke of Brabant against the King of France were almost all armed with cuirasses and "barbute," like knights.² These passages clearly prove that at that period the word *barbute* meant a helmet, and also was often used for a whole man at arms.

That this helmet sometimes had a visor is shown by a passage in the Chronicle of Pietro Azario, written in the 14th century. Relating the death of one of the Guelph leaders, who with 500 "barbute" was going to succour Vercelli in 1320, then besieged by the troops of Matteo Visconti, he says, that whilst seeking to cross the river Sesia at Vercelli, he, who was in advance of the others, wishing to see the Ghibelline camp, raised the visor of his barbute and was struck in the forehead by a cross bow bolt and fell dead from his horse.³ In the next century we still find the barbute described as a head piece, and learn that it was worn with a bavier or chin piece. In an ordonnance of Charles the Bold, dated 1472, men at arms are ordered to wear "cuirasses complète salade à bavière, barbute ou armet," and in the "Traicte d'un Tournoy tenu à Gand par Claude de Vauldray Seigneur de l'Aigle l'an 1469," written by Olivier de la Marche, we read, "il advint sur la fin de leur bataille, que l'entrepreneur avoit donné ung si grant cop d'espée audit signeur de la Ferté, qu'il avoit avallé (lowered or beaten down) la bavière de sa barbute, tellement que, du cop, il avoit la pluspart du visage descouvert;" and in another place, "Mais pour ce que la grant bavière de la barbute dudit Charles de Visen ne fut point abbatue à prendre son espee, par faulte d'une coroye rompue, il sambla par ledit bavière qu'il tenoit qu'il fust desarmé au visage," whilst the prize offered for the best joustes is "une belle barbute de guerre estoffé d'or et de beau plumas très richement."⁴

But on another occasion the same Olivier de la Marche certainly uses the word for something like a bavier, for he says that Claude de Sainte Helène appeared "sa teste armée de salade et de barbute,"⁵ and Chastelain describing the same combat, speaks of him as having "salade en tête ayant bavière."⁶ Hall also uses the word *barbet*, probably derived from

¹ "History," book vi, chap. 24.

² "History," book ii, chap. 77.

³ *Prateræ dum Dominus Petrus ... ex Dominus de Palestrino valde probus cum D. barbūtis ex proceribus partis Gulfæ Papiensis, promittendo Vercellas Salvium flumen transire studeret et ipse, qui procedebat, volens videre castramenta partis Ghibellinæ et qualiter procedebant, levata visera barbute, uno viretono in fronte extitit vulneratus et taliter quod ab equo subito cecidit interfectus.*

⁴ "Traicte des Tournois," par Bernard Prost, Paris, 1878, pages 80, 85, and 91. The word *bavière* in these passages is

wrongly transcribed *banriere*, and the same mistake has crept into many transcriptions of ancient texts. Any one acquainted with medieval manuscripts, knows how hard it is to distinguish *u* from *n* in many of them. Buchon has thus made Henry V wear "un très bel baclinet à banniere" in his transcription of St. Remy's account of the battle of Agincourt, and in other authors *bavière* is quite as often transcribed *banniere* as by the right word; the second *n* in these cases having been put in to modernise the orthography.

⁵ P. 314.

⁶ P. 681.

barbute, for a portion of a helmet in his curious account of the mishap which befel Henry VIII at a tournament. "For a surety the duke strake the King on the brow right under the deféec of y^e hedpece on the very coiffe scull or bassenetpece whereunto the barbet for power and defence is charneled."¹ In these instances it is a part or adjunct of a helmet that is described, and other examples exist of this use of the word.

Now this word barbute must originally have meant something bearded, and it is also the head piece of the Italian fourteenth century man at arms. When it first appears the head piece which we call bassinet was almost universally worn by men at arms in Western Europe, but, as the word *basinetto* existed in Italy, it is probable that the barbute was some modification of that headpiece, and would, no doubt, have been called a *basinet* in England.

Violet-le-Duc was of opinion² that barbute meant a *basinet* without any camail or covering for the chin, which thus allowed the beard to be seen. The author is inclined to take exactly the opposite view, and to suggest that it was from the *basinet* being so to speak bearded, not the man, that the barbute took its name. In other words, that the barbute was a *basinet* with a chin piece of plate, something like what in France was called a "*basinet à bavière*," and we could then perfectly understand how its bavier being the distinguishing characteristic of the barbute, that word should come to be used for a bavier alone after the original helmet had gone out of fashion. But the texts as yet found are not sufficiently precise for this to be more than a suggestion, made, as our neighbours say, *sous toutes réserves*.

ARMET.

The origin of the *armet*³ is a matter of some obscurity, and even the derivation of the word is by no means certain. It has usually been supposed that it is derived from *heaumet*, diminutive of *heaume*, just as *helmet* is from *helm*, and the Italian *elmetto* from *elmo*. Olivier de la Marche mentions the *armet* and *heaumet* as early as 1443 in his descriptions of "*pas d'armes*" on horseback. In a combat in that year between the Seigneur de Haubourdin and Bernard de Béarn the latter received a blow "*sur le bord du clou qui tient la visière de l'armet*." The *armet* "*n'estoit pas attaché mais l'avait Messire Bernard seulement mis en sa teste, ainsi que communement l'on court es Espaignes*." It was consequently almost torn off, and the Duke of Burgundy, who presided, "*voyant son cas, et qu'il n'estoit pas pourvu d'armet ou heaumet suffisant pour sa seureté*," stopped the fight.⁴ In "*Le Challenge de Phillippe de Bouton*" in 1467 the combatants are to fight "*portant armet ou heaumet ou choys et plaisir d'unch un de nous*."⁵ These passages might seem to show that *heaumet* and *armet* were the same, but they are by no means

¹ Henry VIII, an. 16, p. 674, ed. of 1809.

² "Dictionnaire du Mobilier," tome v, p. 185.

³ It must be noted that *armet* would seem to be a foreign word, and not to have been used in England when the peculiar head piece it describes was worn, but as no distinctive English word for the

kind of helmet which came from Italy with that name, has been found, it has been adopted by most writers on ancient armour, close helmet being too general a term.

⁴ Olivier de la Marche, p. 288.

⁵ Bentley's "*Excerpta Historica*," p. 221.

conclusive. In the second it would almost appear that the "armet" and the "heaulmet" were two distinct head pieces, either of which might be chosen,¹ and Littré has found a passage in a writer of the fourteenth century, from which he deduces that armet was not derived at all from heaulmet. He quotes Girard de Ross, who says, "Li ars (l'air) resplendit touz les splendissours des armes, des *armez*, des aubers, des lances, des jusarmes," and observes that it is strange that the earliest form of the word should not show any traces of the transformation from heaulmet or heaume, but appear to be derived from "arme." Still the passage in no way indicates what kind of head pieces were described as "armez" in the fourteenth century, and the word may have no connection with the armet of the fifteenth, besides which the orthography of that period is not a very safe guide to the derivation of a word.

Although the derivation is thus uncertain, the invention of the armet was a very great stride in the progress of armour. Before it appeared, all helmets either fitted on the top of the head or were put right over it, but in the armet the lower part of the helmet opened out with hinges, so that when put on it *enclosed* the head, fitting closely round the lower part of it. It was thus neater, lighter, and more movable, whilst its weight was borne by the gorget, (and consequently the shoulders,) instead of by the head, as was the case with the bassinet and camail.

Just at the same period, when Olivier de la Marche describes the armet as being the head piece worn in every "pas d'armes" on horseback, (for whenever he treats of a "jouste" or course run in the regular jousting harness, heaumes are mentioned as being worn) that spherical head piece with a disc at the back, which we identify with the armet, begins to appear on Italian medals and in Italian paintings, and to Italy must the invention of the new head piece probably be assigned. It will be seen on a medal of Pandolfo Malatesta by Pisano,² which dates from 1445-50, the disc at the back being clearly shown, and it has a chin guard or bavier strapped on in front as with most of the armets in Paolo Ucello's pictures. The roundel or disc protected the opening at the back of the helmet, the weakest point in the armet of Italian origin, and the bavier strapped on in front; the "grande baviere" that we shall find described as belonging to this form of head piece, prevented a lance from forcing up the visor, which in early examples has no catch or bolt to fix it when down. The reader is referred to the description of No. 36, Fig. 32, for an account of the construction of these early armets, which in their origin had a camail or fringe of chain mail hung to them by a row of staples much as in the beaked bassinets. This camail was continued at a later date, but it was then fixed either to a metal band or to a leather strap riveted round the base of the armet. Camails appear clearly on some of the armets in Ucello's pictures. In 1450 Jacques d'Avanchies in his combat with Jacques de Lalain wore an "armet à la façon d'Italie, armé de sa grande baviere," and although the Burgundian knights wore armets when fighting on horseback, it is probable that the armet, such as we know it, was of Italian origin, the French and Burgundian ones approaching more the form of the ovoid bassinet. At all events the armet of Italian form does

¹ The heaulmet, if not the same as the armet, was probably a head piece of the type of No. 81, Fig. 77, in this catalogue, which is half way between the heaume and the armet.

² This medal has been admirably reproduced by the Autotype process, in the "Guide to the Italian Medals," just published by the British Museum.

not appear in French art until later, and in England and Germany it would appear not to have come into common use until about 1500.

The great perfection and excellence of Italian armour was a subject of wonder to the Burgundians in the middle of the fifteenth century, as is shown by the account of a combat in 1446 between Gaillot Baltasin, chamberlain to Filippo Maria Visconti, Duke of Milan, and the Seigneur du Ternant. Messire Gaillot appeared in the lists "armé de toutes armes, l'armet en la teste à un grand plumas d'Italie, et estoit son cheval couvert d'une barde de cuir de boufle peinte à sa devise¹ et y avoit au chanfrain, au poictrail et es flans de la barde, grandes dagues d'acier," and the Seigneur du Ternant, after the course with lances was done, "commença à charger, et à querir son compaignon de la pointe de l'espée par le dessous de l'armet, tirant à la gorge, sus les esselles, à l'entour du croisant de la cuirasse, par dessous la ceignée du bras, à la main de la bride tant que ladite espée passoit outre une poignée; et partout le trouva si bien armé et pourvue, que nulle blessure n'en advint."²

The reverse of a medal by Pisano of Gaillot de Baltasin's master, the Duke Felippo Maria Visconti, shows doubtless how the knight was armed, and the man at arms there represented wears an armet with a roundel and armour exactly of the type of that in Ucello's battle piece. As the duke died in 1447 the medal is a contemporary document. In 1449 we find Jean de Boniface (also in the service of the Duke of Milan) wearing so admirable a harness that "disoit on que ledit de Boniface avoit trempé son harnois d'une eau qui le tenoit si bon que fer ne pouvoit prendre sus; et à la verité, il couroit en un léger harnois de guerre, et n'estoit pas possible sans artifice ou aide que le harnois eust peu soustenir les atteintes que fit desous Messire Jacques."³ Commynes too bears witness to the difficulty of killing an Italian knight when relating how, at the victory of Fornova in 1495, the French varlets and serving men used the axes they had for chopping wood for building the knight's quarters to kill the Italian men at arms, "dont il rompirent les visieres des armetz et leur donnoient de grans coups sur les testes, car bien mal ayses estoient à tuer, tant estoient fort armez."⁴ On one occasion, however, the Italian armet came off badly, and that was when Jean de Boniface tried to use it in a combat with axes, instead of the usual bassinet, and we are told that "il se trouva mal asseurement armé de la teste pour combattre à pied" for Jacques de Lalain, finding that the heaviest blows with both the front and the back of his axe did not damage it, "il entra dedans sa hache par une entrée de la queue de revers," that is to say he got the axe into the opening at back or tail piece of the armet, and thus having a hold of his enemy, he seized him by the plume of the helmet and then threw him face downwards to the ground.⁵ It is possible this helmet had no roundel at the back, but it is clear that it opened behind, much like No. 36, Fig. 32. It is rather singular that Chastelain, recounting this fight, calls the head piece in question a bassinet, and adds that "tout autour de son dit bassinet avoit pointes aigues environ de deux paux de long et par dessus un petit

¹ We shall find this horse armour of painted cuir bouilli mentioned in another quotation as a Lombard fashion.

² Olivier de la Marche, pp. 351 and 353.

³ Olivier de la Marche, p. 303.

⁴ "Memoires de Commynes," livre viii, chap. 11.

⁵ Olivier de la Marche, p. 304.

plumas."¹ He generally agrees exactly with Olivier de la Marche's descriptions, but in this case the latter's account is so circumstantial that it is probably correct, besides which, the bassinet being the proper helmet for fighting on foot, Chastelain may have supposed the head piece really was one.

Most singular plumes and crests appear on the armets in Ucello's pictures, and Chastelain describes one of the kind. When Jean de Boniface first appeared in the lists, "devant lui avoit un page sur un cheval armé de cuir bouilli armoyé de ses armes a la façon de Lombardie et en la tête dudit page un armet, où au pardessus avoit un plumas où y avoit un croissant d'or, et aux debouts plumes de paon et au milieu une houppes de plumes de paon blanche et par dessus tout un couvrechef de plaisance."²

On another occasion Jean de Boniface "sur son armet avoit le bras d'une dame tenant un grand volet."³ And on a medal of Grati Count of Bologna, by Sperandio, there is a very peculiar ornament on the top of an armet in the shape of a small flagstaff with a pennon fluttering in the breeze. Armets were sometimes very rich. Jacques du Clercq tells us that at the entry of Charles VII into Rouen, "un page du Comte de Saint Pol portoit en la teste un armet tout de fin or richement ouvré," whilst the king's pages carried "ses harnois de tête couverts de fin or de diverses façons et plumas d'autruches de diverses couleurs."⁴ And when Louis XI entered Paris in 1461 his armet was carried before him, "et après ly, et tout le plus prochain du Roy par devant estoit Joachim Roault portant l'armette royale, couronne et tymbre de fleurs de lys d'or bien riches."⁵

The armet is continually mentioned in the French "ordonnances" concerning the equipment of men at arms.

Charles the Bold in 1472 orders that "les hommes d'armes seront armé de cuirasses complètes, salade à bavière, barbute ou armet," and Francis I says they shall wear "l'armet avec ses bavieres." Brantôme relates that at Marignan the king himself wore "un armet orné d'une rose d'escarboucle." There is an ordonnance of Henry II of France in 1549, which says that "ledit homme d'armes sera tenu porter armet petit et grand," and no satisfactory explanation has been found of this order to wear a great and little armet. It can only be suggested here that perhaps the armet was called "petit" when not furnished with its tilting bavier and grand when the great bavier or "haute piece" was screwed on, but this is purely a conjecture. By this date the distinctive features of the early armet of Italian origin had entirely disappeared, and any close helmet would seem to have been called an armet in France.

The ordonnances of 1574 and 1584 say "nous voulons l'homme d'armes être armé, à savoir d'armet ou habillement de teste fermé et sans y recevoir aucun morion, encore qu'ils eussent bavieres." This goes strongly against Meyrick's theory that the petit armet was an open casque, which became the grand armet, when a falling beaver like Fig. 91 in this catalogue was fixed to it,⁶ besides which such casques were the headpiece of the "cheveu-légers," not of the "hommes d'armes."

¹ P. 678.

² P. 677.

³ Olivier de la Marche, p. 268.

⁴ Buchon's edition, p. 14.

⁵ "Chronique des Dues de Bourgoyne" par G. Chastelain, Première partie, ch. 18.

⁶ "Critical Inquiry," vol. iii, p. 3, and "Engraved Illustrations," Plate XXIX.

In England the armet does not appear in any monuments before the beginning of the reign of Henry VIII, but by the time when the pictures now at Hampton Court of that King's meeting with Maximilian and of the battle of the Spurs were painted, we find all the English knights wearing the armet with its roundel, and although the sallad lingered longer in Germany than elsewhere the armet appears in profusion in art work from about the year 1500.¹ There is an admirable armet on the suit for man and horse, supposed to have been given by Maximilian to Henry VIII, now in the Tower, which is perhaps the grandest suit of armour of the early years of the sixteenth century in existence.

TILTING, JOUSTING, AND TOURNAMENT HELMS.

One example only of the war helm of the time of Edward III was exhibited, and that will be fully described under No. 75.² Two helms from Cobham Church dating from the last years of the fourteenth or quite the beginning of the fifteenth century (Nos. 76 and 77³) show a much nearer approach to the form of helmet ultimately adopted for jousting, and were probably only intended for use in the tilt-yard. Although these were rather more firmly fixed to the cuirass than the earlier helm, still the profile view will show that they did not fit closely down to the breast and back pieces as all later helms did. In fact the distinctive feature of the true helm of the fifteenth and sixteenth centuries is that it fitted closely down to the breast and back plates, to which it was very firmly fixed, so that no blow could wrench it off. As a consequence of this it had to be made large enough for the wearer to move his head freely inside it, for it had no motion in common with the head.

This kind of head piece was only used for those varied military exercises, all commonly included in the word tournament, which were perhaps carried to their utmost perfection in the second half of the fifteenth century. Most detailed accounts of many of them have been preserved,⁴ and although no complete description of them can be given here, yet as a separate form of helmet was used in each, it will be well for the better understanding of the helms to be described later on, to state broadly the great divisions into which they may be classed.

There was first the combat on foot, "*pas d'armes à pied*," "*armes on foot*" of English texts. In this axes were used, generally with a sharp axe edge on one side, a pointed beak on the other, a long spear blade at the head, and a sharp taper point at the butt⁵. Spears also of a light kind were often used at the commencement of the fight for thrusting or casting, and occasionally the combat was with the stiff foining (thrusting) sword known as an "*estoc*" in France,

¹ Two knights wear it in a drawing of the crucifixion by Albert Durer now at Basle, and dated 1502.

² Figs 72 and 73.

³ Figs 74, 75, and 76.

⁴ The works of Oliver de la Marche, Georges Chastelain, the book on the "Tournament" by King René, the works of Hardouin de la Jaille, Anthoine de la Salle (published in the "*Traicte des Tour-*

nois"), Hall's Chronicle, the account of the tournament of the Lord of Scales in Bentley's "*Excerpta Historica*," and Marc Vulson de la Colombière's "*Vray Theatre d'Honneur et de Chevalrie*" (which contains a vast amount of information), may be consulted on this subject.

⁵ A very fine example of this weapon is in the Tower and there called a pole-axe.

which usually had a roundel instead of a cross guard to protect the hand. The head piece used in these fights has been fully described under *bassinets*, and No. 80, Fig. 78, is an example of this type. Next there was the "*pas d'armes à cheval*" a course run on horseback in war harness, either with sharp or blunted lances. In France and Italy the *armet* with its great *bavier* was used for this exercise, whilst in Germany the *sallad* was often preferred. Certain reinforcing plates were usually put on the harness in these courses to render it more resisting. Then there was the *jouste*, in which a harness of immense strength specially designed for this exercise was worn, with a great helm firmly fixed to the *cuirass*.¹ The lance used was furnished with a coronal instead of a sharp or blunted point. Lastly there was the *tourney* or *tournament*, where a number of mounted men, divided into two opposing bands fought together with rebated (blunted) swords and sometimes with wooden maces. The helm used here was not unlike in form to the one used for combats on foot,² but for the *tourney* the visor was generally barred, leaving plenty of breathing space, this exercise not being so dangerous as it was fatiguing. Sometimes, instead of a movable visor, the bars were riveted on the helm, and examples exist where the face was only protected by a sort of wirework like a fencing mask³

There were many variations of each of these exercises, but it would be out of place to describe them here.

BURGONET AND BUFFE.

Two very different kinds of helmet have been identified with the word *burgonet*,⁴ which first appears about the beginning of the sixteenth century, and was undoubtedly applied to a form of head piece in use until the end of that century. English writers on armour, following *Meyrick* (who founded his opinion on a text of the *President Fauchet*, which will be quoted later), have considered the *burgonet* to be that form of close helmet, which has a hollow rim round its base made to fit closely on to the salient rim at the upper edge of the *gorget*.⁵

Foreign antiquaries have, on the other hand, always regarded the open casque of the type of those engraved on Plate VII of this catalogue as

¹ Figs. 79 to 82 are jousting helms. A complete contemporary account of the jousting helm will be found with the description of No. 78. In Germany a *sallad* was sometimes used for the *jouste*. It was not quite of the same type as the war *sallad* (see No. 30.) A magnificent series of jousting suits may now be seen at the *Musée d'Artillerie*.

² Like the helm used on foot it is sometimes also called a *bassinets*. In the account preserved of the marriage of the Duke of Burgundy to the Princess Margaret, sister of Edward IV. in 1468, we read of the "hewing on *bassynettes* wth blunt swerdes" at a tournament held to celebrate the event. *Bentley's "Excerpta Historica,"* p. 239.

³ *Hefner "Trachten,"* vol. ii, Plate 137.

⁴ *Burgonet* is derived from the French *bourguignote*, which name seems to indicate a Burgundian headpiece. *Richardson*, in his *Dictionary*, suggests that it might be derived from the Anglo-Saxon *Byrg-an*, to protect, to defend, but as the word does not appear in any language until the sixteenth century, and people did not then go to the Anglo-Saxon when they wished to invent a new name, the theory is manifestly absurd. In the same way he suggests *Morion* might come from *Myrr-an*, *a.s.* to dispel or repel. As this is also a new word in the sixteenth century, one might as well seek an Anglo-Saxon derivation for *Telephone*.

⁵ Figs. 39 to 41, 47, 50, and 53 to 55 of this catalogue would have been called *burgonets* by *Meyrick*, *Hewitt*, *Planche*, &c.

the bourguignote or burgonet. The face in this form of helmet was generally exposed, but could be covered by a movable face-guard strapped or otherwise fixed to the helmet, of which Figs. 91 and 93 are examples. Here is the passage from Fauchet, and it must be noted that it is the *only* authority for Meyrick's theory, whilst, as will be found later, several weighty objections to it exist in other texts. Fauchet then, in his "Origines des Chevaliers Armories et Heraux,"¹ after speaking of the great heaulm, which in the thirteenth and fourteenth centuries was put over the hood of mail or the bassinet, says—"Depuis, quand ces Heaulmes out mieux representé la teste d'un homme, ils furent nommez Bourguignotes: possible à cause des Bourguignons inventeurs: par les Italiens Armets, Salades, ou Celates." He then talks about lances, &c.

Now, if this sentence be carefully examined in its entirety, we shall find—first, that there is nothing at all to show that a close helmet fixed to the gorget by a rim at its base was a burgonet rather than any other form of close helmet, there being no suggestion of anything of the kind; secondly, that what it really does say is, that when the helmet ceased to be the great cylindrical heaume of the thirteenth and fourteenth centuries and fitted more closely to the form of the head, it took the various names of burgonet, armet, sallad and celata.²

Writers on armour have hitherto contented themselves with quoting the first half of the sentence and then it certainly reads in favour of Meyrick's theory, but if the sentence be taken as a whole there is no reason for supposing that the burgonet was the only helmet which "representé mieux la teste d'un homme," the armet, the sallad, and the celata being mentioned in the same breath, besides which these helmets are only mentioned as being *more* like the human head than the huge cylindrical helm, and almost any helmet of the sixteenth century would answer to that.

In short it is a purely gratuitous assumption that any one peculiar form of the close helmet is there identified with the burgonet, and as we examine other texts in which this word appears we shall find the gravest objections to Meyrick's supposition. A letter from Richelieu to the Cardinal de la Valette speaking of the formation of a new cavalry force tells us exactly what was meant by a burgonet in his day. He states that they are to be armed with "une bourguignote couvrant les deux joues avec une barre sur le nez." This is clearly a head piece of the type of Fig. 95, which at that period was coming greatly into vogue for cavalry. Earlier still, in 1595, Sir John Smith says of light cavalry called Stradiotes, "I would wish them all to be armed with good burgonets and buffes, with collars, with cuirasses, with backs, and with long cuisses."³

Here again the helmet cannot be the close helmet with a rim, for it is of light horse he is speaking, and in this case we find the burgonet coupled with a buffe, the nature of which we shall learn from another text. In the Survey of the Armour in the Tower in 1660, we find mentioned, "Foote armour of Henry viijth richly quilt consisting of backe

¹ Second edition, Paris, 1606, leaf 42. The dedication is dated 1600, the year when the first edition probably appeared.

² It must be observed that the colons before and after the supposition concerning

the origin of the name bourgingnote, stand for brackets, the sentence reading without the parenthesis, ils furent nommez Bourgingnotes Armets Salades ou Celates.

³ "Instructions Militaire," p. 199.

breast and placket, taces, gorget, a burgonet with a buffe or chin peece," and also "Armour richly guilt and graven consisting of a backe, breast, cushes, a paire of kneecops, gorget, a pair of short taces, one burgonet with a buffe, murrion, one gauntlet, and a shaffrone, with a paire of guilt steeles for a saddle."¹ Again, here the burgonet is in both instances associated with a buffe, which we now learn is a chin peece.

At an earlier date we find the buffe mentioned in France and Italy as a kind of tilting bavier or "haute-pièce." Fausto da Longiano, speaking of the arms necessary for a combat, says, "Ti provvederai di tutte l'arme da giostra, cosi con la targhetta, come con la buffa."² Brantome tells us that at Marignan, Francis I. "s'y mesla si bien, qu'il y fust en grand danger, car sa grande buffe lui fut percée à jour d'un coup de pique," and in the history of Bayard it is said that "le bon cavalier lui bailla si grand coup sur le haut de sa grande buffe qu'il l'en desarma."³ The buffe in these passages was probably what has been called a tilting bavier or haute-pièce, and Holland associates it with the bavier when he says, "others furbished their head pieces, buffes and beavers," besides which it is distinctly stated above to be a chin peece. It might therefore be argued that the suits described in the Survey were tilting suits with close helmets and haute-pièces, but it must be noted that these are not complete suits, having no greaves, and would therefore seem to have been light horse armour, for all the tilting and cap-à-pied suits in the inventory are described as such by the author, who was evidently well acquainted with the technical terms for armour. Besides which is the fact that the burgonet is associated in so many texts with lightly, not with heavily, armed men. It may again be objected that the texts as yet quoted are of late date, and it has already been shown how the names of helmets got to be most loosely used at a late period, but still Sir John Smithe wrote his recommendation for Stradiote light horse to be armed with the burgonet five years before Fauchet wrote the equivocal passage on which Meyrick founded his supposition that the burgonet was a close helmet. Fortunately, however, there remains a text written almost at the date when the burgonet is supposed to have made its first appearance, in which it is distinctly described as the especial head piece of light cavalry in contradistinction to the heavy armament of the man at arms.

In the life of Giovanni de Medici, Captain of the Bande Nere, written by his contemporary, Giangirolamo Rossi, we read, "Per il che questo signore ebbe cento cavagli leggeri di condotta, la quali fu il suo primo principio nel mestiere dell'armi; e fece prove mirabili facendosi sempre vedere dai nimici con danno loro, per avere egli cominciato a rinnovare e favorire quel mestiere alla leggiera, che era già quasi disposto e fuori d'uso, in modo che venne in grandissima riputazione, volendo che i suoi soldati avessero cavagli turchi e giannetti e fossero bene armati con *celate alla borgognona*: tal che per opera sua, a per lo comodo de tal uso, gli uomini d'arme si sono quasi dimessi in Italia, facendo questi, e con minore spesa e con più prestezza spesse volte, l'uno e l'altro effetto."⁴ This band was raised in 1516-17, consequently just after the date usually given to the invention of the burgonet, and here it is termed a celata,

¹ *Archæological Journal*, vol. iv, pages 349 and 350.

² "Del Duello" Venezia, 1559.

³ Ed. of 1651, page 65.

⁴ "Vite di Uomini d'Arme e d'Affari del Secolo XVI. narrate da Contemporanei." Barbera, Firenze, 1866, p. 80.

which was the Italian word for an open helmet without a visor. We are told that the convenience of the armament of these light horse led to their superseding the men at arms, and it cannot be supposed that they were armed with the rimmed close helmet, which was only suited to very heavily armed men. To discover then what the burgonet really was, we must look for a head piece essentially suited to light horse, a head piece which appears about the beginning of the sixteenth century, and a head piece which has not a chin piece; as a separate and distinct chin piece called a *bufe* is so often associated with it. If we look at the various forms of helmet in use in the sixteenth century we shall find but one which answers all these conditions, and that is the one engraved in Plate VII, where we have a series dating from the time when Giovanni delle Bande Nere adopted the "*celata borgognona*" for his lightly armed cavalry down to the days of Richelieu, who armed his horse with "*une bourgonnote couvrant les deux joues avec une barre sur le nez.*"

FORGERIES.

When the taste for any class of objects of art or antiquity develops itself, when rare specimens command high prices; then spurious examples will at once begin to appear. For a while they will pass current, but before long they are found not to equal the excellence of the originals, and they cease to be dangerous to any but the tyro at collecting.

For many years past forgeries of ancient arms and armour have been made. Richly repoussé helmets and shields, imitating the work of the great masters of the sixteenth century, and swords with finely chased hilts, have been fabricated in Italy, and imitations of swords of an equal excellence have appeared in France, whilst Germany has supplied visored bassinets, pieces of the so called Gothic armour of the fifteenth century, and indeed much armour of very fair workmanship, together with guns and pistols with stocks inlaid with ivory.

But the peculiar speciality of England has been early helms of every imaginable form and long toed sollarrets.

Why in a country where the Civil Wars swept away almost all armour of home manufacture of the fifteenth and sixteenth centuries, early helms and long toed sollarrets should abound, is puzzling, to say the least. It is true that some real specimens of early helms have been preserved in churches, through the old practice of hanging them in achievements of arms over the tombs of departed warriors, and these pieces have occasionally passed into private hands; but the rate at which church helms appeared in the market a few years ago, would have been anything but creditable to those in whose keeping they ought to be.

Of course the story with which these helmets came before the buying public was occasionally varied, but it was always a good circumstantial one. And wonderful to relate, for nearly thirty years these miserable shams were accepted as genuine by the best judges in the country, described and engraved in the most learned publications, and allowed to vitiate the best collections, not excepting those of an almost national character.¹

¹ Sir Samuel Meyrick's collection was an exception and I believe free from forgeries, although as was natural in so

large an assemblage, some of the pieces were not in the purest state.

That the general public and even some of the dealers should have been deceived is not to be wondered at, when we consider how difficult it was, until quite recently, to get access to any good armour.

Abroad one might pass an hour in the careful examination of a single suit in any of the great collections, but here one was allowed to bestow about as much attention on a suit of armour in the Tower, as a conjuror permits one to give to the machinery with which he performs his tricks, or a showman to a questionable giant at a fair.

The Tower was, to the public mind, little more than a branch of Madame Tussaud's establishment. The unprivileged collector was, therefore, ready to accept any specimen offered to him. But the owners of large collections, and those to whom every facility for access to our national collection was granted, those who described, illustrated, and bought these forgeries, how can we explain their infatuation?

Leaving that point aside, the authors of this catalogue determined when convinced of the falsity of a piece simply to class it amongst the forgeries. It was of course a painful duty,¹ but imperative.

The description given further on of the spurious helmets will sufficiently explain the various tests to be applied to a piece before accepting it as genuine, and if the detailed accounts of real early helmets be compared with the notices of the spurious ones, these tests will become still more apparent.

¹ In one instance a gentleman to whom the exhibition owed three of the grandest and rarest helmets in the whole collection also sent three, which unfortunately had to be condemned. Those early *English* helmets in the Musée d'Artillerie, of which Pkanche laments the loss to this country

("Cyclopedia of Costume," vol. i, pp. 280 and 283), did not appear to me, when I last saw them, to be quite above suspicion, but the light in which they were was not very good as the collection was being rearranged.

European Helmets.

No. 12, Fig. 8.

Part of a Helmet? Came from the South of Germany and was used as a water bucket. Date (?)

Mr. E. Wright.

Has this piece been a helmet? Its form certainly suggests an affirmative answer. And if a helmet, of what period is it? It bears sufficient resemblance to the existing examples of the conical helmet of the eleventh and twelfth centuries to render Mr. Wright's conjecture that it dates from that period a fair one. Nor is it an isolated instance of an ancient head-piece having been used at a recent period as a bucket. Mr. Riggs, in Paris, possesses a fine German Sallad which he discovered being utilised in that way by a bricklayer; whilst No. 18, when found by Fortuny, was serving the same purpose in the hands of a mason. Workmen in remote districts must occasionally find old armour when pulling down ancient buildings, and, if ignorant of its value, they turn it to any use that may suggest itself.

The existing authentic helmets of a form similar to this piece are, as far as the author is aware—

1. A helmet found near Abbeville, France, and now in the Musée d'Artillerie in Paris. It is of copper and truncated at the top like Mr. Wright's.¹ Viollet le Duc thinks this helmet belongs to the twelfth century.

2. The helmet attributed to Henry the Lion Duke of Brunswick who died in 1195, formerly in the collection of the Duchesse de Berri, more recently in that of the Baron Von Zu-Rhein, of Würzburg, and now in that of M. Basilewski, in Paris. It was exhibited at the Trocadero in 1878. It is constructed of six segments of iron or steel. Round the bottom of the helmet there is a broad band of gilt and engraved brass which, at its lower edge, has the remains of a series of holes, apparently for a camail or curtain of chain mail. On this band are engraved birds and flowers and there is also a large embossed lion. Narrower bands of brass, also engraved and gilt, spring from this, and covering each junction of the iron segments, meet together at the top, where there would seem to have been an ornament of some kind, which is now wanting. Altogether, whatever may have been its origin, it is a most remarkable and interesting helmet.²

¹ Engraved in Viollet-le-Duc's "Monumental," tome vi, p. 143.

² The only engraving of this beautiful

helmet with which the author is acquainted is in the illustrated catalogue of the Baron Von Zu-Rhein's sale, Würzburg, 1868.

3. A helmet in the Cathedral of Prague attributed to St. Wenceslaus who died in 935. It has a nasal, and Demmin¹ says it is incrustated with silver. It is engraved in the Baron Von Suttner's work.² The author has not seen this helmet.

Besides these examples, there is a small conical helmet with indications of a nasal (now broken off) in the Musée d'Artillerie,³ which would seem to be the last trace of the Norman helmet with a nasal, but it bears a close affinity to the bassinet, and probably dates from the end of the thirteenth or beginning of the fourteenth century.⁴

BASSINETS.

No. 13, Fig. 9.

Bassinet, with iron staples for camail (from the Meyrick collection). Date about 1350. *Mr. W. Burges.*

This helmet is said to have been found in an old castle at Naples.⁵ It has suffered from corrosion, but is still the most interesting specimen of its kind extant. The iron staples, which nearly follow the lines of the edge of the bassinet but cease over the forehead,⁶ were for fixing the camail, which was probably attached to plates of metal, pierced with holes through which the staples passed. A cord through the holes in the staples then secured the plates in their places.

The helmet is hollowed out at the nape of the neck to allow of the head being thrown back with ease. Between the staples and the edge of the bassinet are small holes countersunk on the outside, by which the lining of the helmet was sewed in. These holes follow exactly the line of the edge and are continued over the forehead. There are two rivets over the centre of the opening for the face. It is difficult now to determine what their use may have been, but it is not improbable that they were for fixing up a moveable nasal like that seen in the monuments of Albrecht Von Hohenlohe⁷ (d. 1319), Günther Von Schwartzburg⁸ (d. 1349), and Ulrich Landschaden⁹ (d. 1369). A fine example from a statue at Freiburg is given by Viollet-le-Duc.¹⁰

That this nasal was not exclusively a German fashion is proved by the fact that it is found on the statues of Francesco della Scala (better known as Can Grande or the Great Dog), d. 1329, and of Can Signorio, d. 1375,

¹ "Guide des Amateurs d'Armes," page 264, No. 8.

² "Der Helm, von seinem Ursprunge, &c." Von Gustav, Freiherrn von Suttner, Wien, 1878.

³ Catalogue of 1875. H. 18.

⁴ Demmin, page 268, No. 25, and for a similar helmet in a MS. of the beginning of the fourteenth century see Quicherat "Histoire du Costume," Paris, 1875, page 217.

⁵ Meyrick, "Critical Inquiry," ii, 10.

⁶ One of these staples is represented near Fig. 9, at E.

⁷ Boutell "Brasses," 1847, p. 191.

⁸ Hefner, "Trachten," vol. ii, pl. 27.

⁹ Hefner, "Trachten," vol. ii, pl. 53.

¹⁰ "Mobilier," tome v, p. 188. Viollet-le-Duc here attributes this statue to the end of the thirteenth century, but it seems of later date. He says it is from the tomb of Berchtoldus.

both lords of Verona. These monuments, together with the adjacent tomb of Mastino II, were executed about 1739, in the life time of Can Signorio, by Bonino di Compione. Both knights wear a small bassinet, not unlike the one under consideration, and Can Grande has his helm with its crest, a mastiff's head, slung to his back.¹ This small bassinet without a visor was the usual headpiece of the man at arms throughout Europe during the third quarter of the fourteenth century. For tilting with the lance, or on the actual battle field, a helm, like the one described under No. 75, was put over it. In the Chapel of St. George, at Padua, built in 1377, is a fresco representing a number of knights of the Lupa family kneeling before Our Lady. Each wears the bassinet with camail but no visor, and hanging at his back to a strap round his shoulders, is his helm with its crest.

The frescos in this chapel are supposed to have been executed about 1384.

There are two somewhat similar bassinets to the one under consideration in the Poldi Pezzoli collection at Milan but they are both much damaged.

No. 14. (Fig. 10 & 11.)

Bassinet, from Aldborough Church, Holderness, York-shire. 14th century.

The Rev. P. W. Loosemore.

To Mr. Wentworth Huyshe is due the credit of having obtained this most interesting helmet for exhibition. In his opinion it dates from the second half of the fourteenth century, and he furnished the following notes concerning it.

"This bassinet is traditionally assigned to Sir John de Melsa or Meaux, who was governor of the City of York. 1292-6, and hangs over his effigy in Aldborough Church. The bassinet is of great size, and it was either worn over a mail coif, or a camail was fastened to it inside."

Extract from *Notes & Queries*, 25 Jan., 1879 :

"About 1850 I was at Aldborough, Holderness, Yorkshire, and was there informed that there was an old iron helmet in the church, which was employed habitually as a coal-scuttle to replenish the church fires in winter. D. D."

Extract from letter of the present Vicar, the Rev. Philip Wood Loosemore, to Wentworth Huyshe, Esq., Feb., 1879 :

"The notice of the iron helmet in the extract from *Notes and Queries* has reference to 60 or 70 years ago, when it was used as a coal-scuttle and much damaged thereby. The village school was then held in the chantry of the church. . . . The helmet now hangs over the tomb to which it belongs, and this tomb has the figure of Sir John de Melsa in armour with the feet resting on a lion. There is no inscription on the monument. . . . The first Sir John de Melsa or Meaux, of whom any account has been found, was the owner of the land at Melsa, or Meaux, in Holderness, on which the Abbey of Melsa was built, in the year 1150. Amongst his

¹ Conte Pompeo Litta, "Famiglie Celebri Italiane," vol. i. It is much to be regretted that we do not possess at South Kensington casts of this and the two other magnificent equestrian figures of knights on the tombs of Mastino II. and Can Signorio. The two latter, which are very perfect, and not so large as the first, would give

a wonderful insight into the appearance and armour of a noble Italian warrior in the fourteenth century. The nasal has been broken off the statue of Can Grande, but a fragment of it still exists projecting from the camail and is visible in a photograph in the author's possession,

descendants was a son John, who died without children about 1377, who owned the manor of Berwick.

"The bassinet cannot have belonged to the first Sir John de Melsa mentioned in Mr. Loosmore's letter, as that type of helmet was not in use in the thirteenth century; but there is little doubt that it belonged to his descendant John, who died in 1377, its form corresponding with the known type of that period."

This head piece, which perhaps ought rather to be termed a helm than a bassinet, is fourteen inches high. As may be supposed from Mr. Huyshe's notes, it is in very bad condition, and a thick coat of tar with which it appeared to be covered when exhibited, did not facilitate an inquiry into its original aspect. Over the arch of the opening for the face is a series of small countersunk holes half an inch apart for sewing in a lining.¹ At the nape the helmet is hollowed out, and rivets could be traced by which a strap was probably secured, also for the lining to be sewed to. Up each side of the face opening there are more rivets, probably for the same purpose, or possibly for fixing a camail; but as this helmet rested on the shoulders, it would seem probable that it was used with a standard or hausse-col of mail rather than with a camail.² On each side of the helmet, somewhat high up, is a rather large hole for the rivet which secured the visor. At the apex there is a ring. These helms or big bassinets with a large visor, are frequently seen in miniatures of the fourteenth century, and Mr. Burges at the time of the exhibition drew attention to the resemblance of this one to the helmets represented in the Meliadus MS. in the British Museum.³

A still closer resemblance will be seen to the helmet of a knight in a miniature from the *De ruina Trojæ*, engraved by Hewitt,⁴ who considers this MS. as well as the Meliadus one to date from about 1350. In this latter case there is no camail apparent.

A helmet very similar in many points to the one under consideration exists in the Christy collection at 103, Victoria Street, Westminster. Curiously enough it originally came from Kordofan on the White Nile, and formed part of the collection exhibited by the Viceroy of Egypt in Paris in 1867. Mr Burges drew the author's attention to the fact that one of the indictments against Jacques Coeur, the celebrated *argentier* of Charles VII. of France, was that he had sold armour to the Soldan of Babylon, as the Khalif of Egypt was then called, and that it was not impossible that this helmet was exported by the great French merchant. The date would correspond well enough.⁵

The principal points of difference between the Kordofan and the Yorkshire helmets are, that the former has a chin-piece riveted to it, but this chin-piece is exceedingly thin and might be an addition of later

¹ As a general rule when holes in a helmet are small, near one another, and *countersunk* on the outside, they originally served for sewing in a lining.

² A large and fine bassinet which has passed from the collection of the Comte de Thun at Val di Non through those of Mr. Spengel at Munich and the Comte de Nieuwerkerke in Paris into that of Sir Richard Wallace, and which is engraved by Demmin, p. 276, and Viollet-le-Duc, "Mobilier," tome v, p. 187, shows how different was the shape of the bottom

of a bassinet worn with a camail. This one has its original twelve staples, and two hooks on the forehead show that it was used with a moveable nasal of the kind mentioned in the description of Mr. Burges's bassinet.

³ See Hewitt, vol. ii, p. 82.

⁴ Vol. ii, p. 231.

⁵ Jacques Coeur's trial took place in 1452, but the exportation of arms took place before this date, and the arms exported were probably not of the latest fashion.

date. Against this hypothesis are the facts that the holes for sewing in the lining cease where the chin-piece begins, and also that the chin-piece has rivets for a lining.

Still the form of the chin-piece is so bad, and it is so very thin, that it seems likely that in its present form at least, it is not coeval with the rest of the helmet.¹ At the back, the helmet, instead of being hollowed out, extends down between the shoulders, so that it could be fastened securely to the back plate. It is very thick, indeed, towards the apex, where there is a small hole for fixing either a ring, as in the Yorkshire helmet, or more likely a crest. This helm most probably dates from about the time of the battle of Agincourt,² and it has been described thus minutely as it is a rare and interesting specimen, and but little known to lovers of ancient armour.

That it should have crept one thousand eight hundred miles up the Nile and have found its way back to Europe after four centuries and a-half is certainly passing strange.

No. 15. Fig. 12.

Bassinet with pointed visor. The camail does not belong to it. Date about 1400. *Sir Richard Wallace, Bart.*

This bassinet comes from the Meyrick collection and was engraved by Skelton.³ When exhibited, a piece of chain mail was fixed to it with a wire, but it was a recent addition and in no way belonged to it.

The bassinet with a beaked visor (called in the artistic world a pig-faced bassinet) is now scarcely ever to be obtained, and of late years several counterfeit ones have been offered for sale, but a large number, more or less perfect, exist in various museums. This particular form of bassinet appears on many monuments principally of the first quarter of the fifteenth century, but a similar helmet with a rather less acutely pointed visor is seen during the second half of the fourteenth century. On reference to the monuments⁴ it will be seen that this headpiece was almost always worn with a camail which was usually fastened to the helmet by a series of staples as in No. 13.

Now, the existing bassinets have for the most part no staples, but on a careful examination of this example, it seems probable that it originally had them and that at a later date they have been replaced by rivets, and the same alteration may have been made in most of the other bassinets where the staples do not any longer exist. In Sir Richard Wallace's bassinet, as in Mr. Burges's, there is a row of small holes near

¹ Mr Burges thinks that it might be the original of the ovoid bassinet with a chin-piece riveted to it, so common on our brasses during the first half of the fifteenth century.

² Bassinets with baviers or chin-pieces were much worn at this time. The "harnois de teste" of Henry V. at Agincourt "estoit un très bel bachinet à baviere," St. Remy.

Several examples will be seen in Lonsdale and Tarver's "Illustrations of Medieval Costume."

³ "Engraved Illustrations," vol. i, p. 14.

⁴ See the statue of St. George at Dijon. It represents a bassinet of exactly this type and all the details are most clearly and beautifully rendered. It is engraved in "Archæologia," vol. xxv,

together, close to the edge of the crown piece of the helmet. They are countersunk on the outside, so that their edges should not cut the thread used for sewing in the lining. They are continued right over the forehead, shewing conclusively that they are not for the camail. They are also too far apart and too far from the edge for rings of mail to pass through them, and the same remark will be found to apply to all the bassinets of this kind.

Above this row of holes is a row of rivets, each alternate one having a brass washer in the form of a rosette. This row of rivets, like the row of staples on Mr. Burges's bassinet, *ceases* over the forehead, that is to say, that it follows the line to which we find the camail is attached on the monuments and ceases where not required for the camail.

On examination the brass rosettes prove to be identical in form and make with those in use on morions of the sixteenth century. The pattern does not in the least resemble the work of the fourteenth or fifteenth century. They are of later date than the helmet, and on further examination it seems most probable that they occupy the places where staples originally were, for the visor does not fit at all close to the crownpiece of the helmet, a considerable space being left for the staples and the band to which the camail hung. Of the nine visored bassinets in the Musée d'Artillerie collection not one has now got staples, but it is likely that some of them have originally had them. One indeed has rosettes to its rivets of the same pattern as those on this helmet. It has often been supposed that the camail was attached to the helmet by rings passing through the small holes near the edge, but if it is remembered that these holes are continued right over the top of the face, whilst the line of rivets stops short there, it will become evident that it was to this last line that the camail must have been fixed.

It is quite probable that these helmets were still used with a standard of mail or plate after the camail with which they were originally worn had gone out of fashion, and the staples in consequence had been removed.

The visor of this bassinet is perforated with a large number of small round holes on its right side only. The back part of the hinge piece on each side is modern, but in front of each hinge near its lower end is a small hole in the visor, the use of which at first seemed a complete mystery. The Dijon statue of St. George, already mentioned, gave however a clue to it. The pin of the hinge was originally fastened to the visor by a small chain, one end of which was linked through this hole, whilst the other was fixed to a similar hole in the top of the pin. The pins could not thus be lost when the visor was removed. Several bassinets preserve these pins with holes at their tops.

Over the centre of the visor are two holes in the crown piece of the helmet now filled up with rivets. They may have been for a spring bolt which sprung out when the visor was down, and prevented an upward blow from uncovering the knight's face, or for a plume holder, as in the Coburg example.¹

¹Bassinets of this type being exceedingly rare, it may be interesting to notice the examples best known in various museums. In the Tower is one purchased at the sale of the Brocas collection. It would appear

that the visor had once been hinged on the forehead and altered later to the side hinge system.

In the Musée d'Artillerie are six of this type. A seventh, with a more bell-

No. 16. Fig. 13.

Bassinet of the time of Henry V. exhibiting an approach to the form of a Sallad. There is a perforation at the top for the socket to hold a feather and the holes seen in the side are to fix the cap within and the orle or chaplet without. From the Meyrick Collection.

Sir Noel Paton.

The above is Meyrick's description of this helmet.¹ A close study of it, however, reveals a curious fact which will become evident if the following remarks be accompanied by an examination of the representation of the piece in Figure 13. This helmet was originally a bassinet similar in type to No. 13, Fig. 9, and in the middle of the fifteenth century it has been altered into a sallad of the fashion then prevalent in Italy. It will first be noticed that the square opening for the face cuts at its corners through an arched series of small holes exactly corresponding to those over the face-opening in the bassinets previously described. This arched series of holes indicates that the face-opening was originally arched. At the back of the helmet, near the bottom edge, there is also for the width of four inches an arch of similar holes, indicating that the helmet was originally hollowed out at the nape, like Fig. 9. Above these are distinctly seen (although they have not appeared in the photograph from which the plate was taken) a series of holes rather far apart, following the the same curved line, which were probably for staples, and these also

shaped crown piece; and two others said to be English, one of which has a rather spherical visor resembling those seen in a miniature of the reign of Richard II, and the other (which I should consider Italian) looks like a Venetian sallad of the type of No. 17, with a visor to it, only the top of it is conical instead of spherical. There is also a visored bassinet with a gorget of plate, which will be mentioned later.

The museums of Chartres and Nancy each possess a bassinet of the type of Sir R. Wallace's, as do also the Armoury of Turin and the Ambras collection now at Vienna. The one at Chartres is known as the helmet of Philippe le Bel, but is of later date. At Coburg is a splendid example with all its staples, but here the visor is hinged to the centre of the forehead, as in the statue of Hartmann von Kroneberg (d. 1372), engraved by Hefner (*Trachten*, vol. ii, pl. 85). This Coburg helmet is engraved in Heidehoff's "*Ornements du Moyen Age*" (Heft, xv, pl. 3); it has its plume holder and is of blued steel.

Mr. Hefner Alteneck has a similar helmet, also with all its staples (*Trachten*, vol. ii, pl. 50), and Lord Londesborough has a very fine bassinet with the visor hinged in the same way, which came from the castle of Herr von Hulsoff in Bavaria (engra-

ved in Fairholt's "*Miscellanea Graphica*.") This mode of hinging the visor would seem to have been German, but in the Bargello at Florence there is a small detached visor of this kind. Another variety is the bassinet with a camail shaped gorget of plate. A splendid example of this, formerly in the Soltikoff and Napoleon III. collections, is now in the Musée d'Artillerie. It is engraved by Viollet-le-Duc, (*Mobilier*, tome v, p. 164). The date of this fashion is fixed by the monument of Philippe le Hardi at Dijon, executed about 1390, on which a similar bassinet appears.

There is an example in the Tower engraved by Hewitt (vol. ii, p. 209), but it is impossible at present to verify its authenticity, which has, I believe, been doubted. At Venice is a very large bassinet which is peculiar in that the helmet and the camail of plate are all forged in one piece. It was found with a chanfron near Aquilea, and is commonly ascribed to Attila! (*Journal Arch. Assoc.*, vol. viii, pl. 23). At Warwick a fine bassinet, with remains of a visor, has almost as absurdly been ascribed to Guy of Warwick (Grose, "*Ancient Armour*," pl. 42).

¹ "*Engraved Illustrations*," vol. ii, pl. 74.

appear at each side of the face opening, following a similar line to the staples in Fig. 13.

Over the centre of the face-opening are two holes exactly as in Mr. Burges's and Sir Richard Wallace's bassinets. These may have originally been for a nasal or for a vizor hinged there like the one on the statue of Hartman von Kroneburg already mentioned. The series of rivets which run round the helmet on a level with the top of the opening for the face are for a strap to which a cap for lining the helmet was sewn, the old mode of sewing in the lining by means of the set of small holes having been spoilt by the cutting down process, for the helmet has been cut round the bottom to get a straight line, and the edge then rolled over.

The rivets for a chin strap are clearly visible below those for the lining strap exactly in the position of those in the next helmet (Fig. 14.) All these holes are those which Meyrick thought were for fixing an orle, but they are too low down. The description of the next helmet will treat further of this matter.

The plume holder is ancient, but more probably dates from the time when the basset was transformed into a sallad of the form in vogue in Italy from 1450 to the end of the fifteenth century. In France and England such sallads were much worn by archers about 1475, and some of almost exactly this shape appear in the miniatures of a manuscript executed for Edward IV. about 1480.¹

SALLADS AND BAVIERS.

No. 17. Fig. 14.

Sallad, Italian, with T shaped opening in front.
Weight, 5lbs. 7oz. Armourer's mark, a star with a crown over it. Date, 1450 to 1490. *The Baron de Cosson.*

Although more allied in form to the basset, than to the sallad of German fashion this form of head-piece would seem to have been known in Italy as a *celata*. It appears as early as 1448 on a medal of Alphonso of Aragon, by Vittorio Pisano, his last dated work. The form of the opening for the face varied very much in these helmets. In some cases the Greek hoplite helmet would seem to have been imitated. Meyrick possessed one of this form,² and a fine example now in Sir Richard Wallace's collection is engraved by Viollet-le-Duc.³ On the triumphal arch of Alphonso of Aragon, erected at the Castel Nuovo at Naples in 1470, are two bas-reliefs representing grand groups of warriors.⁴ A variety of helmets of this type will be found on them.

In the helmet under consideration, the opening for the face, already very small, is guarded by a band of steel rivetted all round it. This would prevent the point of a hostile weapon from glancing into it.⁵ On a level with the top of the opening is a series of rivets running round the helmet. These are for a strap to which the lining was sewn. Below, on

¹ See Hewitt, vol. iii, plates 97 and 98.

² "Engraved Illustrations," vol. ii, plate 74.

³ "Mobilier," tome vi, p. 272.

⁴ There are casts of these in the Musée d'Artillerie, Paris. Similar casts ought

to be at South Kensington, as the bas-reliefs are noble works of the finest period of the Italian renaissance. Photographs, however, can easily be obtained of them.

⁵ This arrangement is also seen in Meyrick's *celata* just mentioned.

each side, are two rivets. The bas-reliefs of Alphonso of Aragon give a clue to the use of these. One of the principal figures in one of them is holding a celata, exactly similar to the one in question, by its chin straps as if it were a pail. These chin straps, which buckled under the chin, were fixed to the helmet by the two rivets. Several of the helmets of this type on the bas-relief are represented with wreaths or orles, but the wreath is always *above* the line of rivets which appears clearly below it. On the monument of Antonio Rido,¹ a noble Paduan general who died in 1475, is represented a similar celata, ornamented apparently with bands of applied metal, with a ball for a crest and a scarf tied round it in place of a wreath.

Indeed, the very earliest example the author has met with, the one on Pisano's medal dated 1448, is grandly ornamented, and has a crest somewhat in the shape of a cock's comb. The chin straps are also clearly represented in this helmet. In general appearance it much resembles the latest form of the celata Veneziana which will be described under No. 33 and is represented in pl. II, fig. 29.

In the grand battle piece by Ucello, in the National Gallery, young Malatesta carries in his hand a helmet with the T shaped opening, like the one under consideration, but it is covered with velvet and studded with gilt nails.

No. 18. Fig. 15.

Sallad, Italian, of classic form, with slight projections for the ears. From Fortuny's Collection at Rome. Armourer's mark, two stars. Date 1450 to 1490.

The Baron de Cosson.

The influence of the study of classic art is clearly traceable in the beautiful curves of this head-piece so admirably fitted to the shape of the skull. Each projection for the ears is pierced with six small holes to facilitate hearing, for in common with all the Italian helmets of this period this celata fits the head very closely. In the north it was customary to leave a large space between the helmet and the head, which was filled with a thickly wadded cap, and which served to deaden the force of a blow on the head-piece, but the Italian sense of beauty required that the apparent size of the head should not be exaggerated.

Just above the top of the opening for the face is a series of small holes for sewing in a lining. These holes cease under the ears, and the cap must have been cut away there so as not to impede hearing. The last hole on each side next to the ears is filled with a rivet, which served to fix the chin strap. In the top of the helmet is a small hole for fixing a crest. In Ucello's battle piece in the National Gallery will be seen two sallads of this form, with nasals curving boldly outwards. One of the bas-reliefs of Alphonso show this same nasal, which it there clearly appears was *hinged*, turned back over the crown of the helmet, which it exactly fits. It was only lowered when in action. We shall meet with a similar contrivance two centuries later in the so-called spider helmets of the reign of Henry IV. of France, No. 97, fig. 112.

¹ In the Church of S^{ta}. Francesca Romana at Rome. See Bonnard, pl. 133.

No. 19. Fig. 16.

Sallad, Italian, of fine form, with plume holder of gilt brass and an applied ornament round the edge, of the same material. From Rhodes. Date 1470 to 1500.

*The Museum of Artillery, Woolwich.*¹

This is one of the various helmets which the authorities of the Museum of Artillery at Woolwich most kindly allowed the author to select for exhibition. In form it is distinctly Italian. On the arch of Alphonso, already mentioned, several sallads will be seen of the same kind. The plume holder is shaped like an Italian shield, and on it is engraved a vase with flowers. It is fixed to the helmet by two rivets with flat heads, stamped with a sort of rosette. One of them is represented on Plate II at B, and we shall find these identical rivets used on several head-pieces of the same period, as for instance on the sallad next to be described and on the armets, Nos. 38 and 39.

The style of the engraving on the escutcheon is quite that of Italian fifteenth century work. The brass border is three quarters of an inch wide and is represented (with its section) half the real size at A. The helmet has had chin straps, the rivets for which remain, together with a small piece of leather on one side. The rivets with which the brass border is fixed are of brass. Those which secured the strap for the lining are of iron, with a small brass cap soldered on to their heads. There is a somewhat salient ridge or crest running from front to back of the helmet. It is altogether a most beautiful example of the Italian head-piece of the close of the fifteenth century.

No. 20. Fig. 17.

Sallad of an archer or foot soldier, with a reinforcing piece on the front and a jointed tail piece. From Rhodes. Date 1460 to 1500.

*The Museum of Artillery, Woolwich.*²

There is in the Musée d'Artillerie another sallad very similar to this, which also came from Rhodes, only the piece on the front is hollowed like the simulated visor on many Roman helmets.³ It is altogether a finer piece of work than the Woolwich one.

This form of helmet is often seen in Italian pictures of the end of the fifteenth century, notably on a soldier in the background of Boccaccio Boccaccino's procession to Calvary in the National Gallery.

The Woolwich helmet has no crest or ridge. The rivets for the lining are flush on the outside (so have not appeared in Fig. 17) and their heads on the inside are stamped like the one drawn at B. One of these rivets also remains to fix the reinforcing piece. There has been an armourer's mark but it is nearly effaced.

¹ Woolwich Catalogue, Cl. xvi, No. 201.

² Woolwich Catalogue, Class xvi, No. 205. The visor is there stated to be

movable. This is a mistake. It has got loose, but was never meant to move.

³ Cat. of Musée d'Art, H24.

No. 21. Fig. 18.

Sallad, probably Flemish. From Rhodes. Date 1460 to 1500. *The Museum of Artillery, Woolwich.*¹

This piece is unique in form, nor has the author met with any representation of a helmet exactly of this shape. The rivets for lining and chin straps are nearly flush with the outside. There is no ridge. Mr. Burges attributed a Flemish origin to it on account of its clumsy form, but it is difficult to assign it positively to any country until a representation of it shall have been found on some monument.

No. 22. Fig. 19.

Sallad, of German form, from Rhodes. Date about 1450. *The Museum of Artillery, Woolwich.*²

This sallad is unusual in form from its great depth and from the very slight projection of its tail. A comparison of Fig. 19 with Figs. 20, 21, and 23, which are the normal types of German sallad of the second half of the fifteenth century, will show how much this sallad differs from the usual shape. A series of rivets, flush on the outside, maintained a strap just above the level of the slit for the eyes to which the wadded cap or lining was sewn. The bottom edge is rolled outwards over a wire, but, as will be seen by a small section close to the figure of the head-piece, this rolled edge does not, as is usually the case, project beyond the level of the outer surface of the sallad.

It is impossible to determine exactly the date and country of this sallad, but it would seem an earlier form than those which are next to be described. It approaches more nearly to the chapel de fer with a slit in it which appears to have suggested the origin of these German sallads. There is a very curious example, if genuine, of this prototype in the collection of Prince Charles of Prussia.³

No. 23. Fig 20.

Sallad and Mentonniere or Bavier. This defence for the head was worn during the greater part of the second half of the fifteenth century. Date, 1450 to 1490. *The Baron de Cosson.*

The sallad and the chin-piece or bavier, although fitting one another so well that it has been thought instructive to place them together, were obtained, the one from Germany and the other from Spain. In the helmet, the long tail piece, the chief characteristic of the German form of sallad, is much more marked than in the last example. In battle these helmets were worn nearly horizontal, the slit in the front serving to look through. It will be observed that just below this slit the front of the helmet is strongly salient so as to guard the slit from the adversary's thrust.

¹ Woolwich Catalogue, Class xvi, 210.

² Woolwich Catalogue, Class xvi, 209.

³ "Die Waffensammlung Sr Königlichcn Hoheit des Prinzen Carl von Preussen,"

Nürnberg. Taf. 6. A similar one in the Londesborough Collection is engraved in Fairholt's "Miscellanea Graphica." Genuine?

When not actually fighting the wearer threw back his sallad and wore it somewhat as a coalheaver wears his hat, looking out from under it. The surface of this sallad has a watered appearance like an oriental watered sword blade. The steel of which it is composed must have been strong in carbon, and the hammering together of the small pieces in which it was produced has caused the appearance mentioned.¹

The rivets for the lining are nearly flush on the outside but on the inside they have large flat heads three-quarters of an inch in diameter. The edges, as in almost all armour of the fifteenth century, are rolled outwards.

The bavier was removed from a helmet which had belonged to the opera house at Madrid, the crown of which was formed of part of an old curassier's helmet. The author saw it in that state in Don José

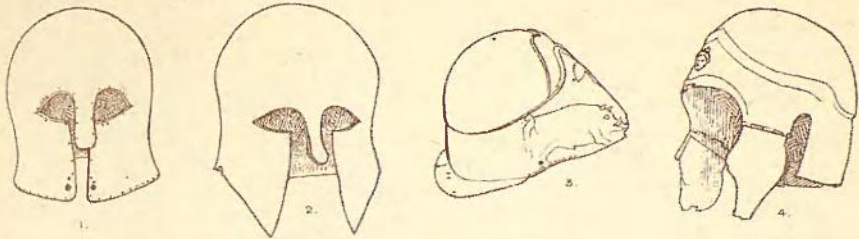
¹ Sir Henry Bessemer, in a recent lecture on steel at the Cutler's Hall, related how the steel used by the mediæval armourer was produced, and as his account explains many of the peculiar qualities and appearances of the metal which we find in ancient armour and weapons, it will add to the interest of these notes if the words of so high an authority be quoted.

"It may be instructive to pause just sufficiently to get a glimpse at the system of manufacture as pursued by the artificers in steel of that period when the Bilbao, the Andrew Ferrara, and the famous Toledo blades were manufactured; for, perhaps, at no period of the history of steel was the skill of the workman more necessary or more conspicuously displayed. The small Catalan forges used for the production of iron and steel at that period were scattered throughout the Spanish Pyrenees and the southern provinces of France. The ores selected by the manufacturer were either the brown or red hematites or the rich spathose ores, still found so abundantly in Bilbao. This small blast-furnace, some two feet only in height, was blown by bellows formed of the untanned skins of animals, trodden on alternately by the foot, the fuel being exclusively charcoal. It is important to remember that the ore reduced to the metallic state in the Catalan furnace never becomes sufficiently carburetted to admit of its fusion, as is the case in all the blast-furnaces in use at the present day; but, on the contrary, the metal sinks down through the burning charcoal to the lowest part of the furnace where the lumps of reduced ore agglutinate and form an ill-shaped coherent mass, the various portions of which are more or less perfectly carburetted, so that while some portions of the lump might be classed as soft iron, other parts have passed through every grade of carburisation, from the mildest to the hardest and most refractory steel.

The mass of metal thus formed, and weighing from 40 lbs. to 60 lbs., is removed by simply pulling down a portion of the front of the furnace. It is then taken by the workmen to the anvil, where it is cut into smaller pieces and sorted for quality; those portions judged by the workmen to most nearly resemble each other are put together, and, after reheating, are welded into a rough bar. This is again cut into short lengths, which are piled together, welded, and drawn out. By these successive operations the several thick lumps of which the bar was originally composed have been reduced to a number of thin layers; and at each successive heating of the stratified mass that tendency which carbon has to equally diffuse itself results in the more highly carburised or harder portions losing some of their carbon, which is absorbed by the less carburised or milder portions of the laminated bar, thus equalising the temper of the whole mass, and conferring on it a far greater degree of uniformity in texture than at first sight would appear possible. It was clearly to the skill of the operator, and the exercise of an empirical knowledge acquired by long practice, that the world was in those days indebted for the excellent blades produced. Each piece of steel thus made had its own special degree of strength and elasticity. The artisan continually tested it again and again, and if he found it too hard he exposed the blade in the open air for many months to rust or get milder, or he buried some parts of it in charcoal powder on his forge-hearth, and patiently waited many hours while he kept up a gentle fire under it, so as to further carburise the edge or the point as he deemed advisable, but without affecting the general temper of the whole blade; he had also his own special and peculiar mode of hardening and tempering."

The lecture has been published at the *Ironmonger Office*, 44A, Cannon Street.

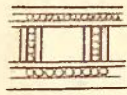
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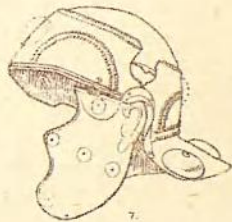
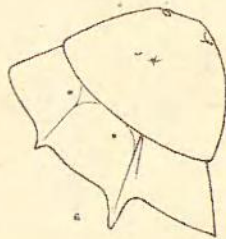
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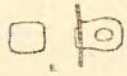
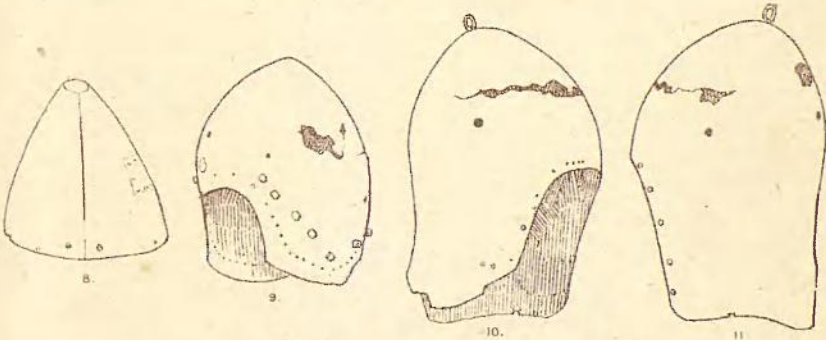
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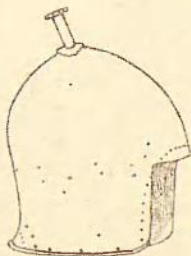
BASSINETS.



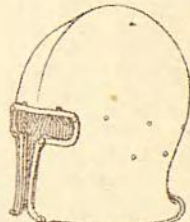
1



12

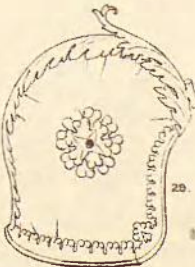
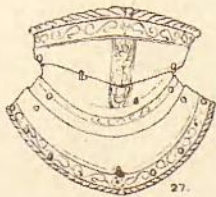
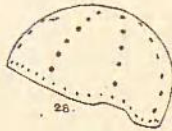
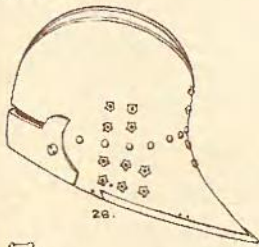
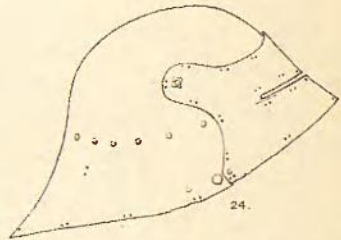
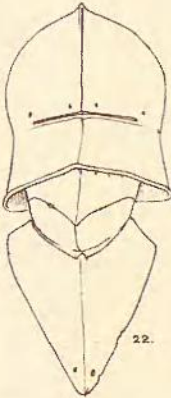
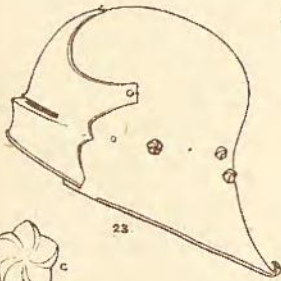
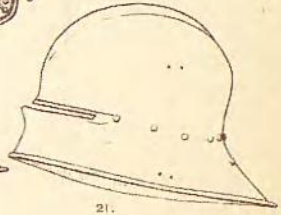
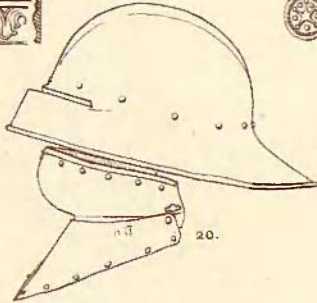
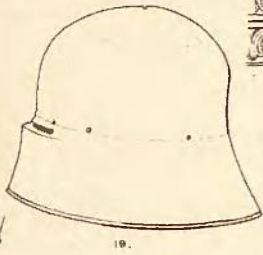
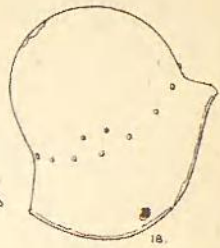
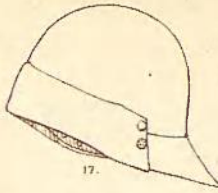
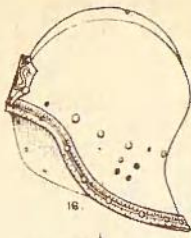
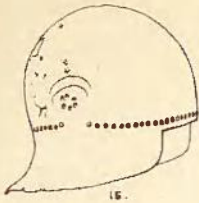


13

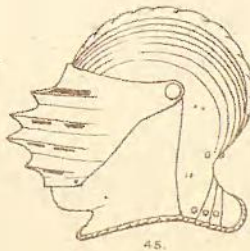
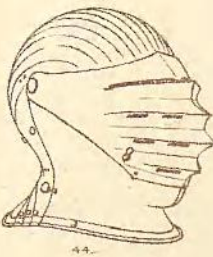
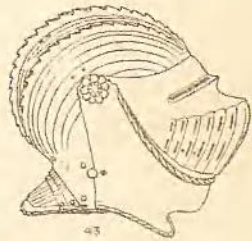
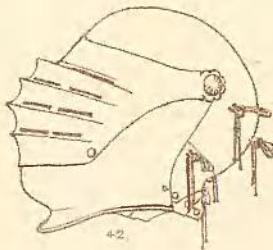
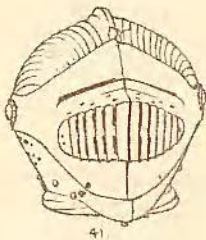
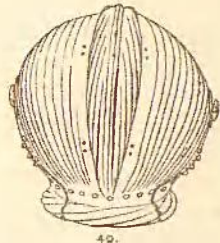
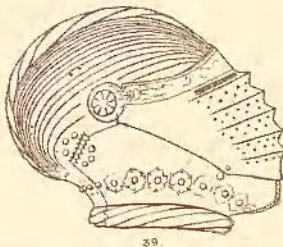
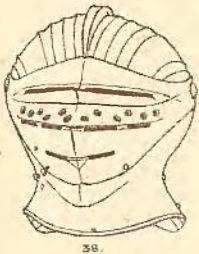
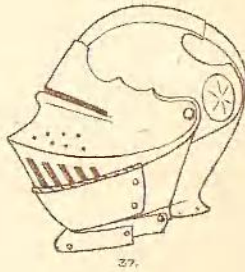
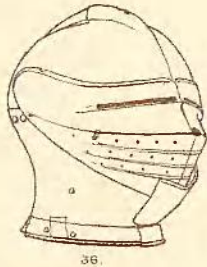
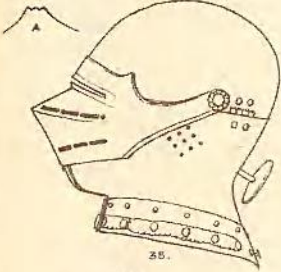
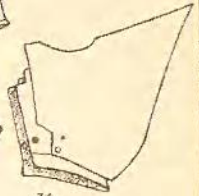
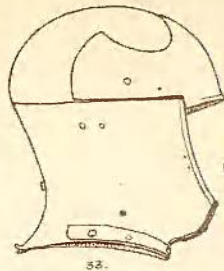
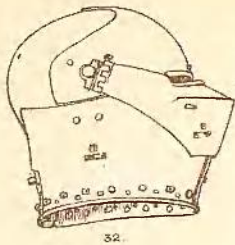
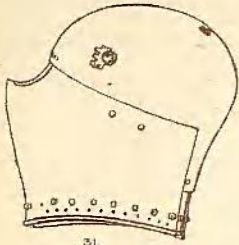


14

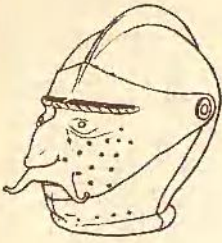
SALLADS & BAVIERS.



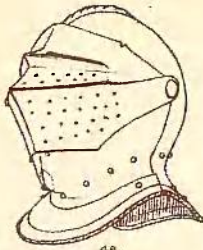
ARMETS & CLOSE HELMETS.



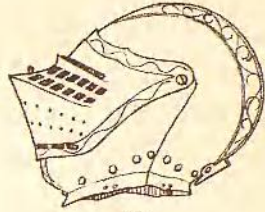
CLOSE HELMETS.



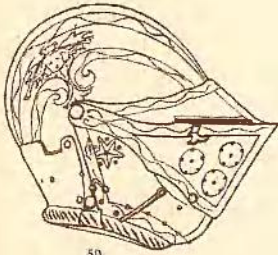
47.



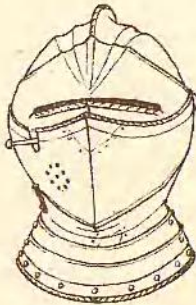
48.



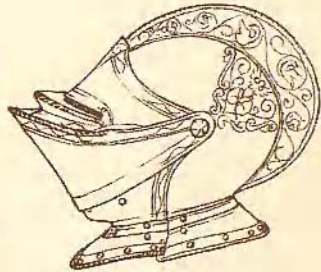
49.



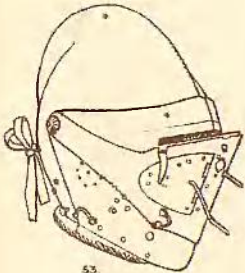
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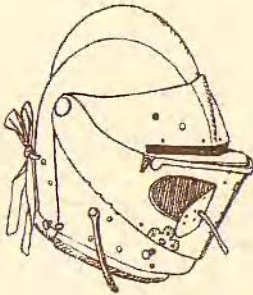
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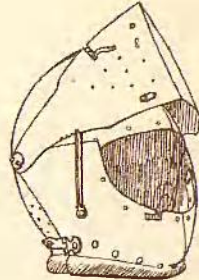
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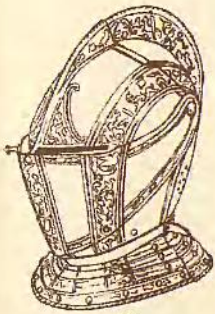
53.



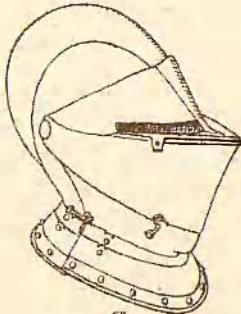
54.



55.



56.

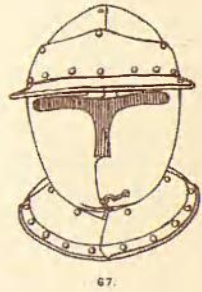
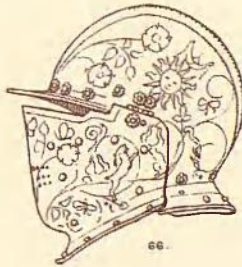
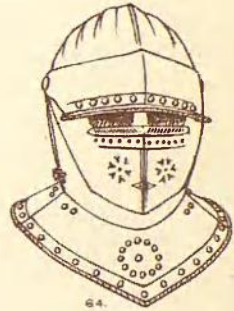
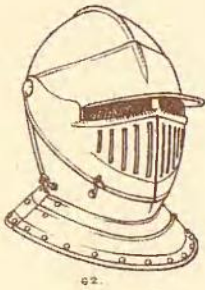
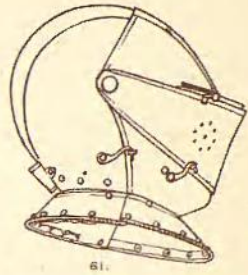
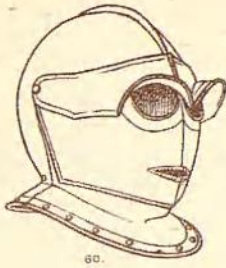
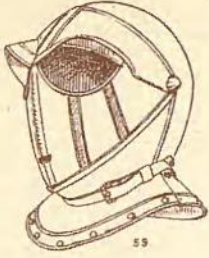


57.

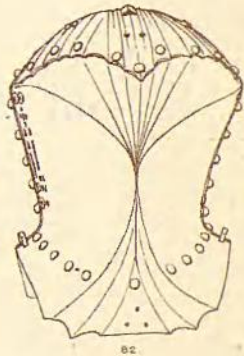
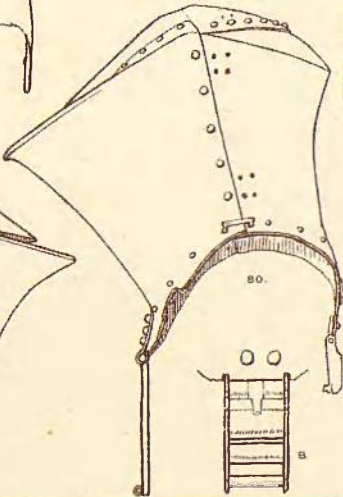
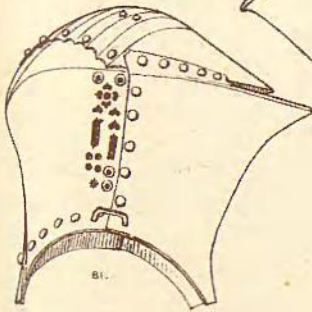
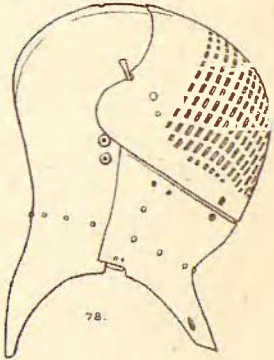
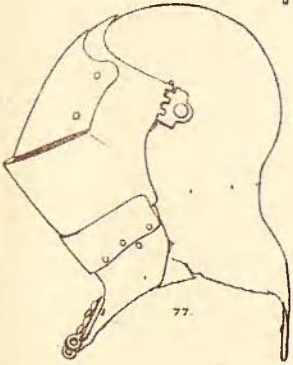
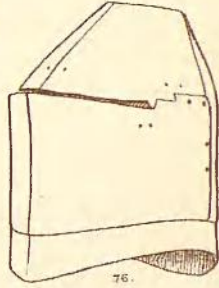
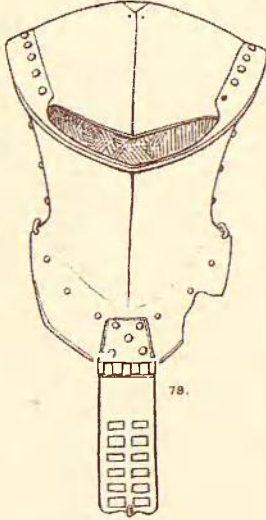
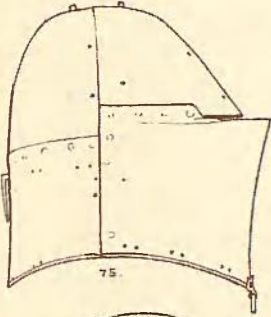
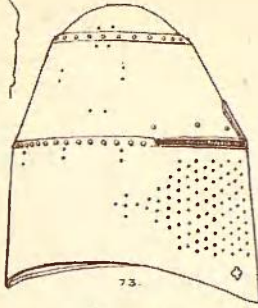
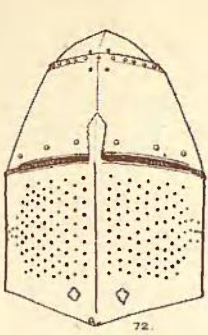


58.

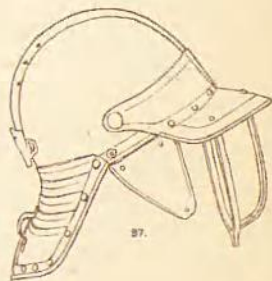
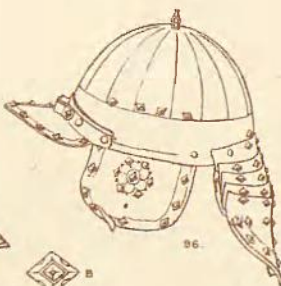
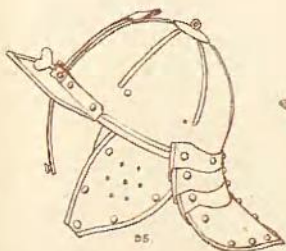
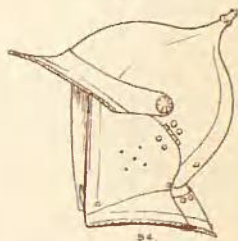
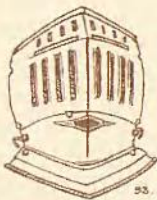
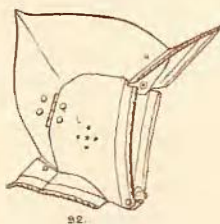
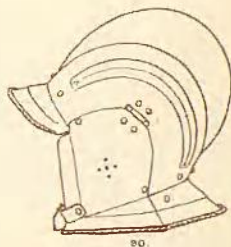
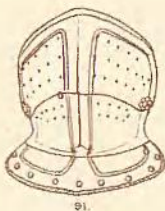
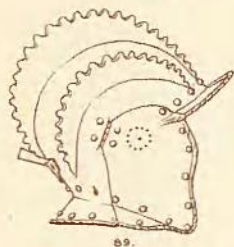
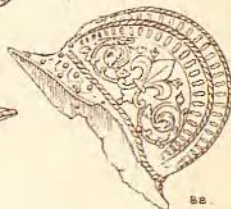
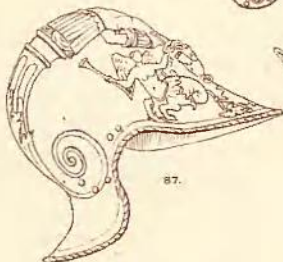
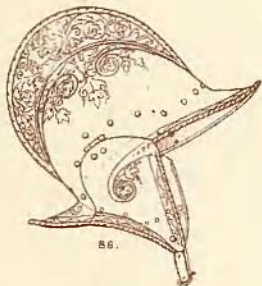
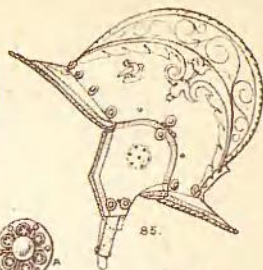
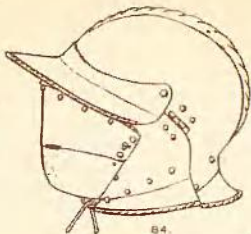
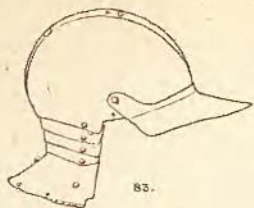
CLOSE HELMETS.



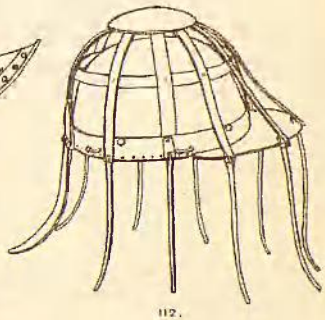
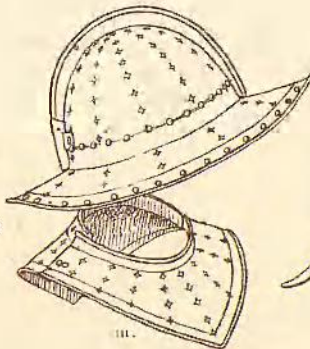
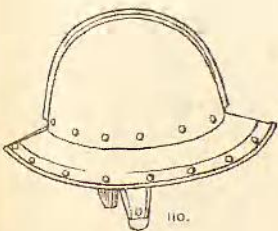
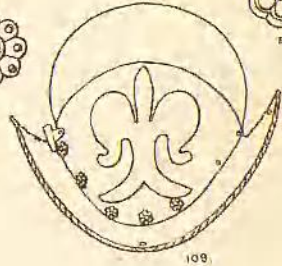
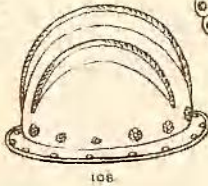
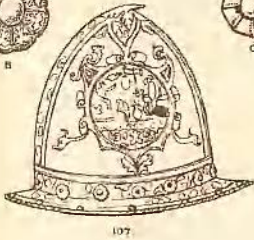
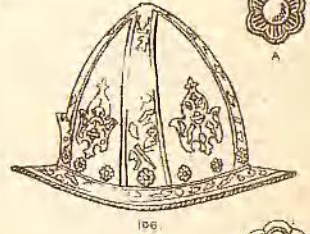
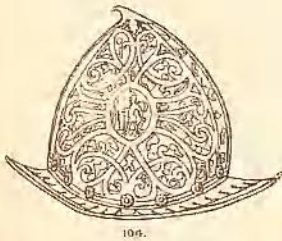
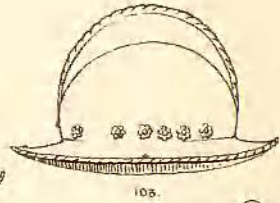
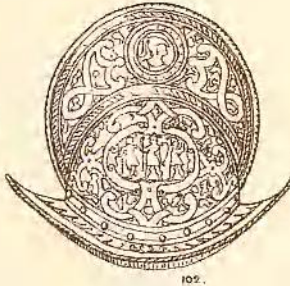
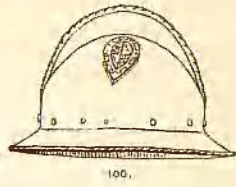
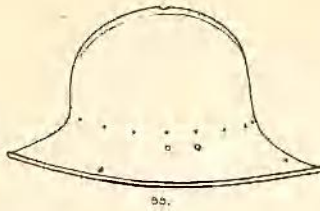
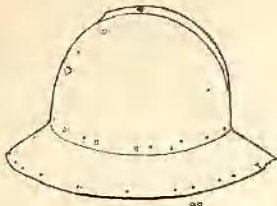
TILTING, JOUSTING, & TOURNAMENT HELMS.



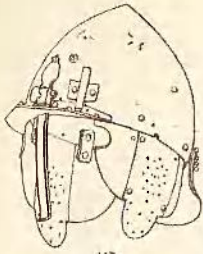
BURGONETS & BUFFES.



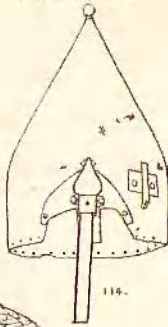
MORIONS, CABASSETS, ETC.



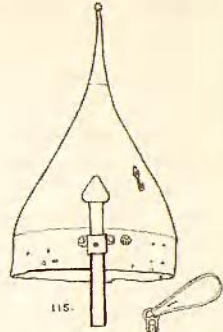
ORIENTAL.



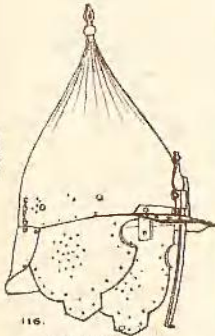
113.



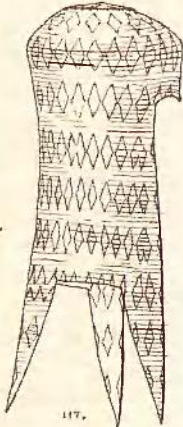
114.



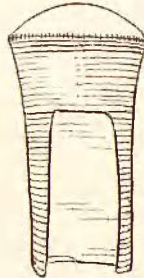
115.



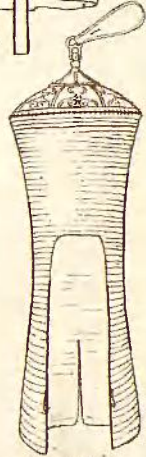
116.



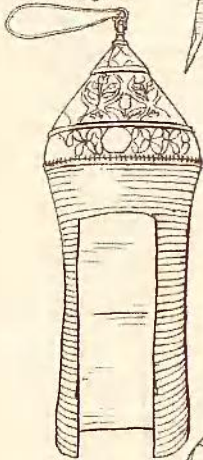
117.



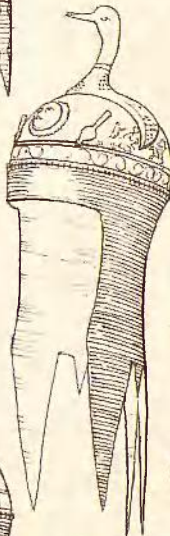
118.



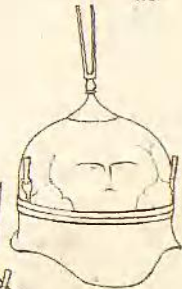
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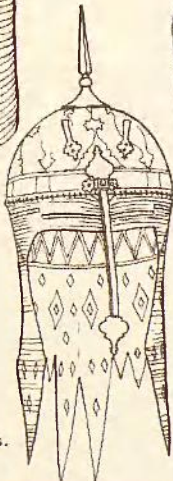
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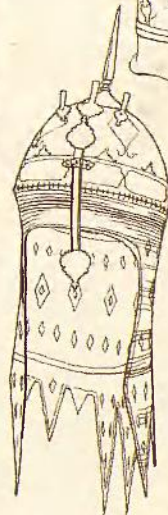
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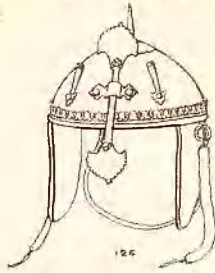


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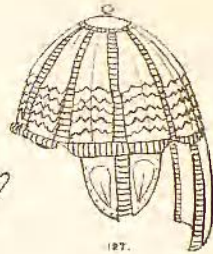
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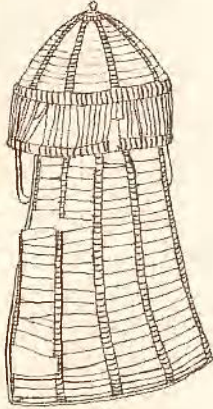
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126.



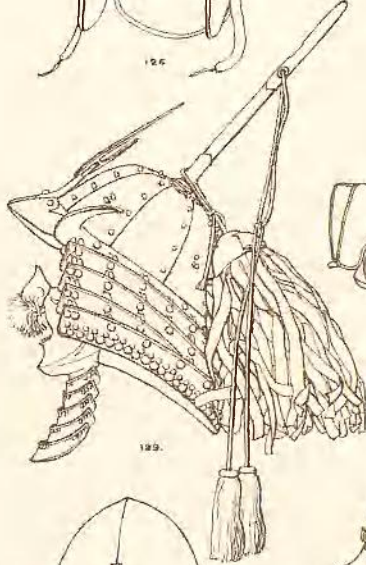
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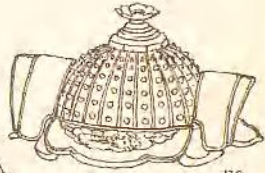
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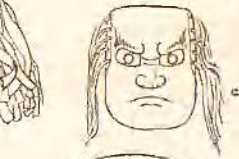
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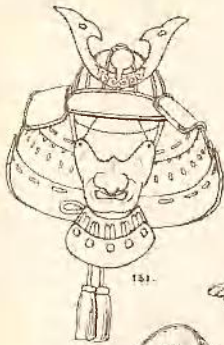
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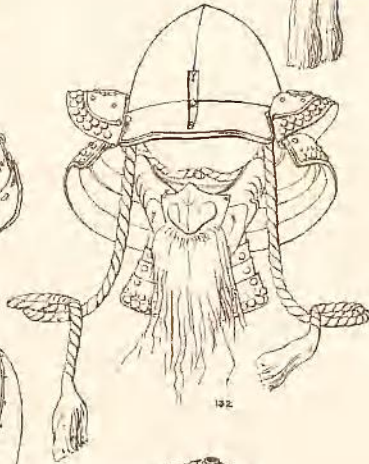
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131.



132.



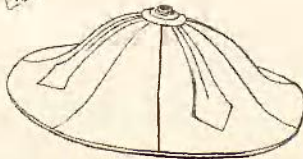
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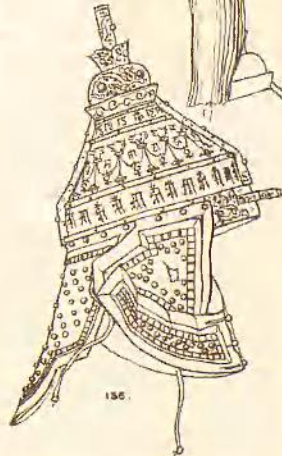
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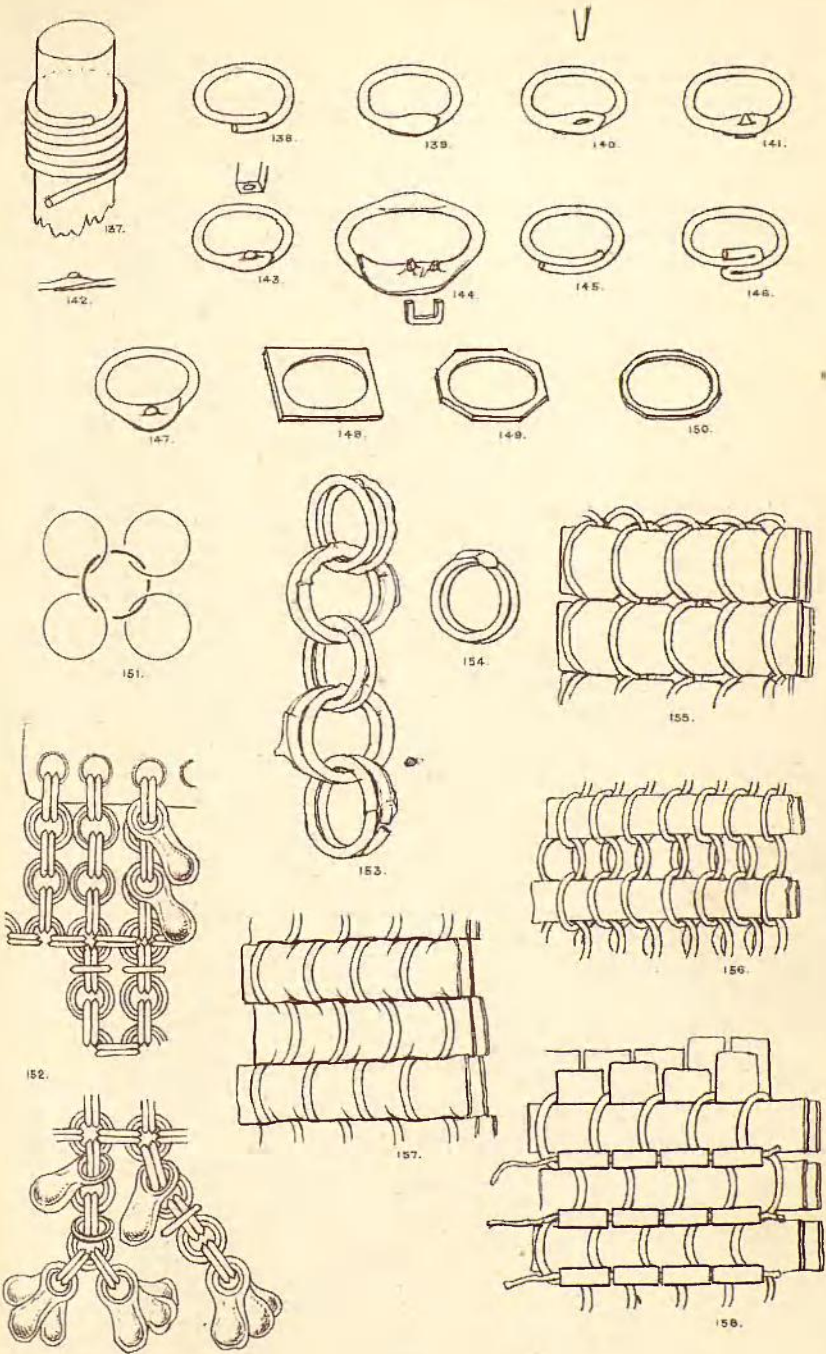


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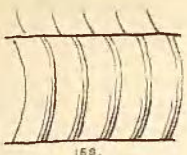


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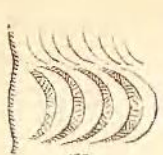
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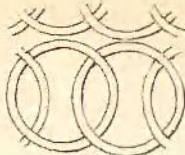
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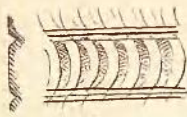
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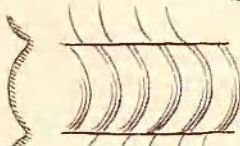
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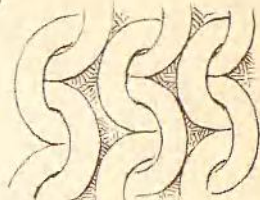
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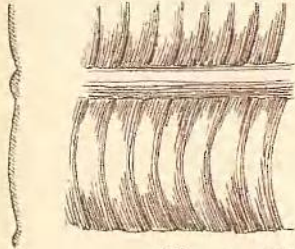
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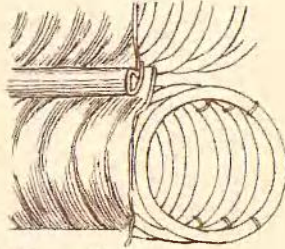
BANDED MAIL.

RESTORATION.



166.

NEWTON SOLNEY.



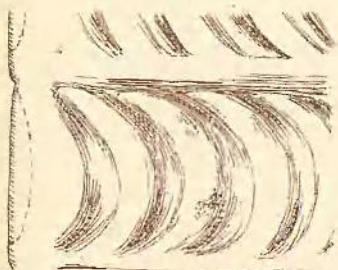
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168.

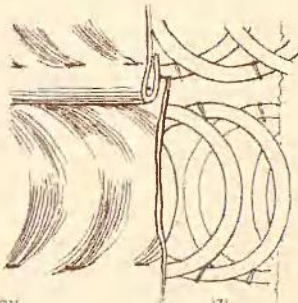


169.



170.

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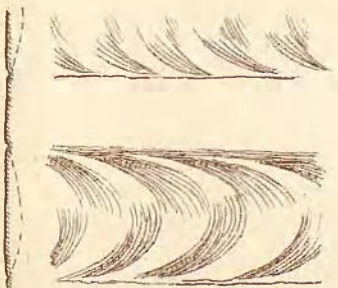
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172.

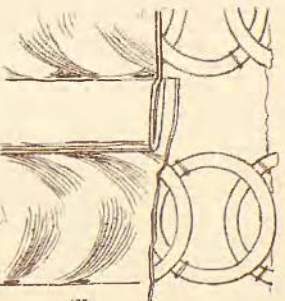


173.



174.

DODFORD



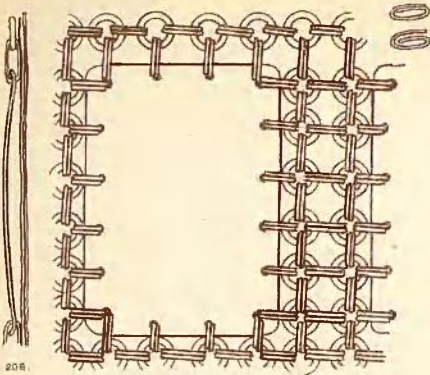
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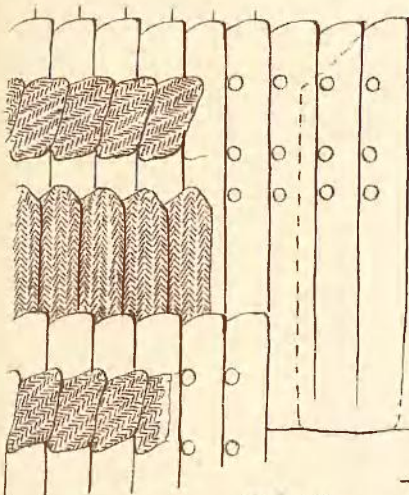
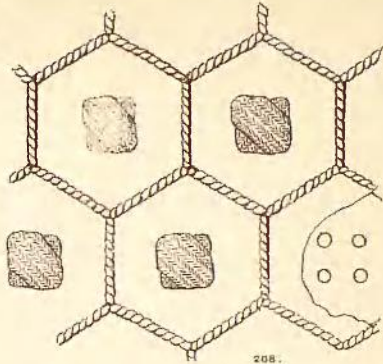
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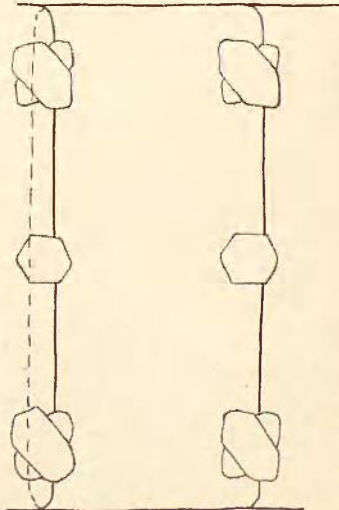
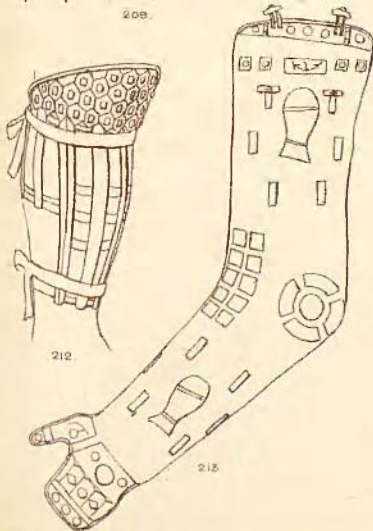
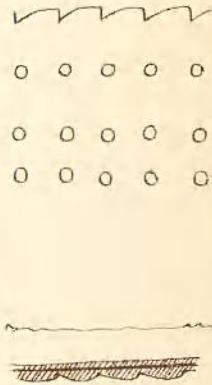
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207.



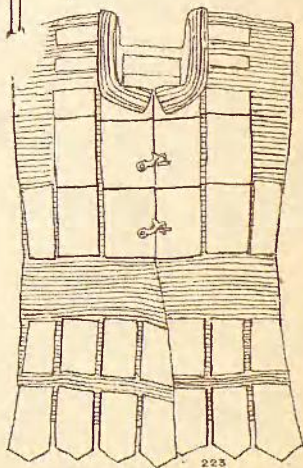
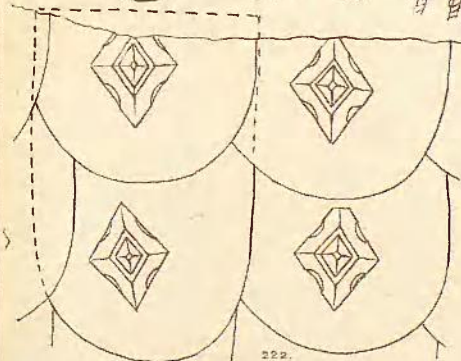
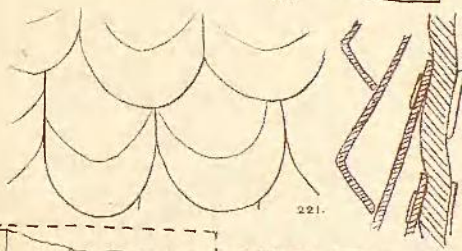
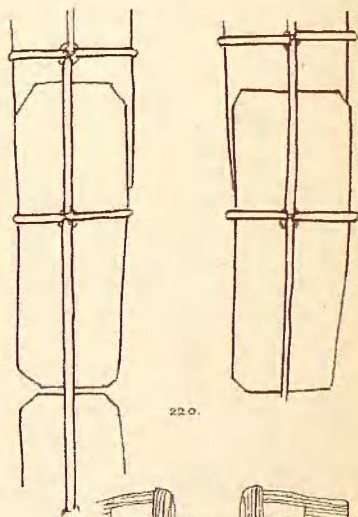
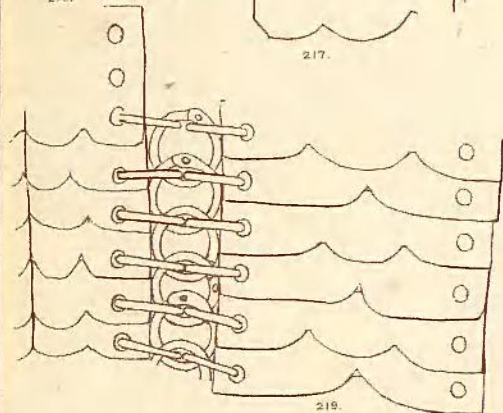
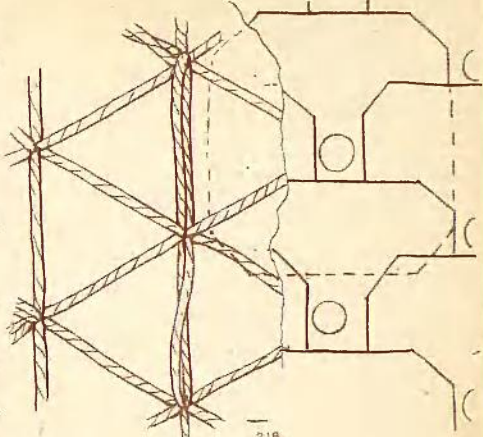
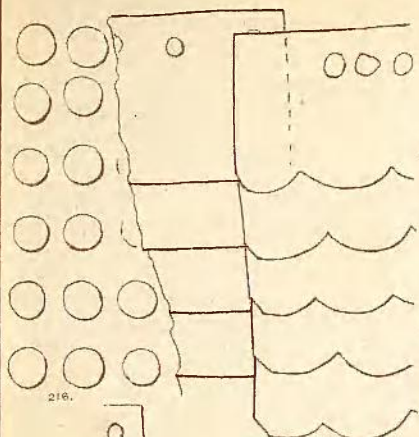
211.



214.



215.



Vera's collection at Seville. It then passed into the possession of Fortuny. On the upper part of it are three armourer's marks, a crowned M and the cross-keys twice repeated; on the lower part | H crowned twice repeated.

These baviers were strapped round the gorget of plate or hausse-col and were generally also fixed at their lower extremity to the breastplate.

No. 24. Fig. 21.

Sallad, German, of remarkably fine form and workmanship. From the Soeter collection at Augsburg.

Date, 1450 to 1490.

The Baron de Cosson.

This sallad is remarkably strong and well-finished in its workmanship. The armourer's mark is a K. There is a stout piece of metal riveted on the inside just over the slit for the eyes to give extra strength. The curves about this slit are all calculated to deflect a sword point striking anywhere near it.

The rivets for the lining have convex heads with brass caps soldered on to them. Fragments of the leather strap remain, and a loop at one side would seem to show that it was fixed under the chin with a thong or cord. In the summit of the helmet is a hole probably for a plume or crest.

No. 25. Fig. 22.

Sallad and Mentonniere, German. Date, 1450 to 1490.

Mr. W. Burges.

Very similar to the last in general form, this sallad is much lighter. It only weighs 5lbs. 2½oz., whilst No. 24 weighs 7lbs. 8oz.

The mentonniere or bavier differs from the one described under No. 23, in that the upper portion is formed of two pieces, the top one being hinged at the sides, so that it could be pushed down over the lower one. The wearer could thus speak clearly without removing the bavier. A spring catch kept it in its place when raised. A bavier which was not jointed like this one must have much impeded the voice. It is considerably thinner and lighter than No. 23, and its lower portion descends further over the chest. It was probably intended to be worn over a brigandine.

No. 26. Fig. 24.

Sallad, German, probably of a mounted archer. It retains much of its original lining and its chin strap. It was probably painted on the outside. A similar sallad in the Tower, painted on the outside, came from the Castle of Ort in Bavaria. Date, 1450 to 1490.

The Baron de Cosson.

This sallad, which came from Munich, has been very fully described and illustrated by Mr. Burges in a recent number of the *Archæological*

Journal.¹ The small holes, in pairs, which will be seen in Fig 24, were for the purpose of sewing in a lining which covered the inside of the visor, and that portion of the sallad which was not lined with the wadded cap of which the greater portion still remains. It is curious that this arrangement, which must have made the head-piece more comfortable, was not adopted in the heavier knight's sallads, but it was perhaps thought more necessary in a light head-piece like this which would be driven against the face by a heavy blow and was probably worn without a bavier.

Viollet-le-Duc² engraves two archers from a manuscript of the "*Passages d'outre mer*" who wear this identical form of sallad and the front view shows that no bavier was worn with it. These sallads are also peculiar for the flattish tops of their crowns, there is no ridge whatever; also for their great length from front to back. This one is eighteen inches long. Viollet-le-Duc³ describes and engraves a very similar sallad now in Sir Richard Wallace's collection, but he was probably in error when he pronounced it to be French.

Count von Torring Jettenbach at Munich possesses a similar sallad. Durer's "Knight" wears a sallad of this type, as do also the brothers Baumgartner in their portraits by Durer at Munich.⁴

There is a similar sallad at Venice in the Museo Civico.

No. 27. Fig. 23.

Sallad, with visor, from Rhodes. Date 1450 to 1490.

*The Museum of Artillery, Woolwich.*⁵

This is a good example of the visored sallad, but the point of the tail has received a blow and been turned up. A spring catch on the right side held the visor in its place when down; when raised the whole of the face was exposed. This helmet is principally remarkable for the very large hollow twisted heads of the rivets for its lining cap.⁶ These large and beautiful rivet heads appear on several effigies,⁷ but not often on actually existing sallads.

No. 28.

Sallad, with visor and jointed tail piece. The tail piece is wrongly mounted. From Rhodes. Date, 1450 to 1490.

*The Museum of Artillery, Woolwich.*⁸

This helmet was not photographed for engraving on account of the clumsy and incorrect way in which the tail pieces had been riveted on.

The general form of the sallad is similar to that of Fig. 23, only the tail piece is formed of two jointed plates, so that when the sallad was

¹ Vol. xxxvii, page 180.

² "Mobilier," tome v, pp. 57-58.

³ "Mobilier," tome vi, p. 264.

⁴ Hefner, "Trachten," vol. iii, plates 113, 114.

⁵ Woolwich Catalogue, Class xvi, No. 207.

⁶ Engraved at C, on Plate 2, half size.

⁷ The effigy of a Neville in Brancepeth

Church, Durham, engraved by Stothard in his "Monumental Effigies," and supposed to be that of Ralph 2nd Earl of Westmorland, who died in 1484, has rivets like these, and Hefner, "Trachten," vol. ii, plate 131, gives a German example of the same date.

⁸ Woolwich Catalogue, Class xvi, No. 208.

thrown back on the head, the head also could be thrown back freely. This arrangement was not uncommon in German sallads of the end of the fifteenth century. The rivets in this instance were flush on the outside.

No. 29. Fig. 25.

Mentonniere or Bavier of a Sallad. The upper plate could be lowered to allow greater facility in breathing and speaking. Date, 1450 to 1490. *The Baron de Cosson.*

This bavier retains the spring catch to keep the upper plate in its place. The lining was sewn in through the numerous small holes round the edges of the piece, which does not seem to have been fastened to the breastplate and probably was worn over a brigandine. It is thin like the bavier of No. 25.

No. 30. Fig. 26.

Tilting Sallad of great strength and exceptional beauty of form. It retains part of its original lining. Its aiglette holes are edged with pewter. Date 1480 to 1500.

Sir Noel Paton.

This sallad, the surface of which is of a fine black colour, has belonged to a suit of tilting armour, such as is worn by many of the jousts in the "Triumph of Maximilian," and of which several actual examples exist in different collections.¹ These jousting sallads are generally heavier than those used in war, flatter in front below the slit for the eyes, as they were worn inside a mentonniere which was screwed to the breastplate and reached up to the eye slit, instead of *over* a bavier as in fig. 22; and they often have tails square at the back instead of pointed, but the present example is of the latter form. The rim, which extends round the edge of the tail of this sallad (but is discontinued in front on account of the mentonniere), is rivetted on instead of turned over. There is a reinforcing piece screwed on to the front of the helmet under the slit. On examining the interior it appears that the part of the helmet which this piece covers was not forged in one with the body of the sallad, but welded in afterwards, as if the sallad had originally been open in front, with a movable visor. This reinforcing piece served another purpose besides covering the welded piece, and that was to support the lower edges of those two plates in the form of a quarter of a circle, generally ribbed, which appear on all the tilting sallads in the "Triumph of Maximilian," and of which many actual examples still remain. At their upper joints they were held by a forked steel spring, the hole for the screw of which exists in the crest of this helmet, and at their lower edges they fitted in behind that portion of the reinforcing piece which projects up on either side of the slit and which is not close to the surface of the sallad. These plates

¹ Musée d'Artillerie, Ambras collection, Vienna, &c.

were easily displaced by a blow, and it was a particularly neat stroke to remove them with the point of the lance.¹

There are two other holes with screw threads in the finely forged ridge of this sallad; but the most remarkable feature in the helmet is the presence of twenty-six aiglette holes mounted with pewter rims, one of which is drawn (half size) at D, on Plate II. There are ten of these on each side and a group of six at the back, three being on each side of the medial line of the helmet. In one of Albert Durer's celebrated tilting helms he represents aiglettes coming through holes like these and tied on the outside, and they must have kept the lining of the helm from flapping about the wearer's head. They were probably used for the same purpose in this sallad,² but their number is astonishing. Some of them may have served for fixing the plumes, wreaths, and mantling which appear in such profusion on the sallads in the Triumph of Maximilian. It must also be remembered that aiglettes were ornamental, and on some dresses of the period of this sallad, especially in Italy, they appear in a profusion which indicates fashion rather than use as their motive. The wadded lining itself, of which the greater part remains, has the same arrangement in its centre as the sallad No. 26, described by Mr. Burges in the *Archaeological Journal* (vol. xxxvii), viz., it is made of four segments drawn together in the centre by aiglettes and thus allowing ventilation in the middle. The lining is sewn to a leather strap, the rivets of which appear on a level with the eye slit.

No. 31. Fig. 27.

Mentonniere, engraved and gilt, Italian. Date 1510 to 1520. *The Executors of the late Mr. J. W. Baily.*

The surface of this piece, where not engraved, preserves its original blued tint. The bands of engraving are gilt. The upper part of the mentonniere is jointed so that it could be lowered, and is kept in its place by a catch. The style of the engraving is Italian, and indicates the date given above. This is a very late example of this form of bavier. It may have belonged to a tilting suit. The piece is now in the collection of the author.

No. 32. Fig. 30.

Sallad screwed to its mentonniere, from a tilting suit of the time of Elizabeth. From the Brocas collection. Date about 1560. *The Executors of the late Mr. J. W. Baily.*

Several tilting suits are in existence³ with this kind of helmet, which

¹ They are explained and illustrated from an example, formerly at Pierrefonds, by Viollet-le-Duc, "Mobilier," tome ii, page 404. The helmet there drawn is now in the Musée d'Artillerie where there are half-a-dozen of the finest tilting sallads in existence. The last time the author visited the Tower he noticed a suit of 15th century armour, on which was a tilting sallad with these movable plates, only they were hung to its sides like *check-pieces!*

² See note to Helmet No. 43.

³ G 124 in the Musée d'Artillerie has this form of helmet, and H 135 is a separate helmet and mentonniere of the same kind. In the Catalogue they are given to quite the end of the sixteenth or the beginning of the seventeenth century. The similarity of the workmanship of these pieces to that of the helmets Nos. 56 and 57, which are found on suits of the period of Henry II. of France, would seem to show that they are of the same date. Napoleon III. possessed a very fine sallad of the same kind, now in

is the latest form of the German visored sallad with a long tail. The mentonniere was firmly screwed to the breastplate. On its right side is a small hinged door, which could be opened for facility in speaking. This arrangement will be found in several close helmets of this date later on. (Nos. 58 and 59). The sallad, which has a high comb and a long tail at the back, was firmly fixed to the mentonniere by a screw and nut; and the original nut remains. The hinged visor could be raised without unfixing the sallad from the mentonniere, as it fits within the front part of the sallad. This helmet is now in the author's collection.

No. 33. Fig. 29.

Sallad, Venetian, used for pageants. Beginning of the
seventeenth century. *Mr. R. Hillingford.*

As under the previous number we have had the latest form of the sallad of German origin, here we have the latest form of the Italian sallad. It is thin and light, weighing only 3lbs. 0½oz. The body of it is of iron, covered with red velvet. The applied ornaments are also of iron, but they have been painted red and then gilt. These helmets were probably worn by the body guard of the Doge.

No. 34.

Sallad, Venetian, used for pageants. Seventeenth
century. *Mr. T. B. Hardy.*

A similar sallad to the last, also covered with red velvet, but without the gilt foliage ornaments. The lining, of stamped and gilt leather, did not seem to belong to it.

No. 35. Fig. 28.

Italian skull cap. It was originally covered with stuff and was found near Rome with a skeleton, a dagger and fragments of a brigandine. Date 1450 to 1490.
The Baron de Cosson.

Most carefully modelled on the shape of the human skull, this is probably the form of headpiece called by the Italians *scuffia* or *cuffia*. It was covered both inside and outside with stuff sewed at the edges of the piece through a series of small holes. The rows of larger holes radiating from its centre were to give coolness and ventilation, very necessary in so close fitting a headpiece. Similar helmets are represented in many Italian pictures of the second half of the fifteenth century, notably in Carpaccio's picture at Venice.¹

the Musee d'Artillerie, which is entirely covered with engraving *painted* and gilt. The style of the engraving indicates the middle of the century. Prince Charles of

Prussia has a suit with this form of helmet.

¹ Hefner, "Trachten," vol. ii, pl. 169, or, better still, the fine photographs published by Naya at Venice.

ARMETS AND CLOSE HELMETS.

No. 36. Fig. 32.

Armet, Italian. Armourer's mark, LIONARDO. The brass staples are for a camail of chain mail. Date 1450 to 1480. *The Baron de Cosson.*

Armets with staples are of the greatest rarity, and this is the only perfect example the author has met with. The armet, with its movable visor, is mentioned by Olivier de la Marche as early as 1443, and it appears about the same date on Pisano's Italian medals.

The one under consideration, from the resemblance of its staples to those of bassinets of the beaked type and from its form and workmanship, would seem to be the earliest type of the armet. The same pin and hinge arrangement found in the 'bassinet' secures the visor to the helmet. The slit for sight is not *in* the visor, but is formed by the space between the upper edge of the visor and the lower edge of a reinforcing piece on the forehead. This arrangement, common in Italy both to armets and visor sallads, is rarely found in helmets of German origin, where the slit is usually cut in the substance of the visor itself when the visor is made of a single piece.

The lower part of the armet consists of two cheek-pieces, hinged to the crown just under the pivots of the visor, which overlap in front and were strapped together at the bottom of the chin. At the back the skull has a sort of tail piece, over which the cheek pieces close, leaving however the central portion of the tail piece uncovered, and from the tail piece projects a short stem, to which was originally attached a disc somewhat like the one seen in Fig. 35.

The precise use of this disc is a matter of some doubt, but it is the typical characteristic of the early armet, and appears in all representations of it until the beginning of the sixteenth century. It probably was intended to guard the opening at the back of the armet, which was undoubtedly its weak point. The tail piece does not quite reach the lower edge of the armet, but is continued by a small piece fixed to it with rivets working in slots, so that when the head was thrown back it could slide slightly upwards. The staples, fifteen in number, are of brass, and to them was attached a camail much as in the stapled bassinet. Between the staples are rivets for the lining, which must have covered the whole of the inside of the helmet, and which was sewn in over the forehead through holes which exist behind the reinforcing piece. The armet is small but heavy, weighing 9lbs. 6ozs. At its summit is a hole to which the crest could be fixed. In early Italian pictures very magnificent crests are seen on such headpieces.

The armourer's mark is an L in a circle, and below, his name at full length—LIONARDO.

Helmets almost identical with this one, some with camails edged with brass rings, appear in Paolo Ucello's battle-piece in the Louvre, and those in another picture of the same series in the National Gallery, supposed to represent the battle of San Egidio, are very similar in character.

¹ See pl. I, fig. 12

An examination of the Italian pictures and monuments of the second half of the 15th century will show that these armets with discs, generally worn with a large mentonniere or bavier; and the *celata* or sallad of the form described under No. 17, were the head-pieces most in vogue in Italy at that period. The bavier served to prevent the visor (which has no catch or fastening to keep it down), from being forced up. This form of armet only disappears altogether about 1500.

No. 37. Fig. 31.

Armet, Italian, the visor wanting. Fifteen staples for attaching a camail remain. From Rhodes. Date 1450 to 1480. *The Museum of Artillery, Woolwich.*¹

This helmet is so similar to the one just described that only its differences need be noted. It has not, and appears never to have had, any reinforcing piece over the forehead. There are six breathing holes on the right cheek-piece. The opening for the face is still smaller than in No. 36. Curiously enough there is no trace of a disk or roundel at the back. The general arrangements for lining and camail are the same. The armourer's mark is a hand with the first and second fingers extended, but with the thumb and remaining fingers closed.²

No. 38. Figs. 33 and 34.

Armet, probably Italian, and mentonniere (the visor is wanting), from the tomb of Sir George Brooke, K.G., 8th Lord Cobham, who died in 1558. From Cobham Church, Kent. Date 1480 to 1500.

The Rev. A. W. Berger.

The general construction of this helmet resembles that of No. 36, but its forms approach much nearer those of the close helmet of the sixteenth century. Its outlines are peculiarly delicate and beautiful. It has a reinforcing piece on the forehead. The cheek-pieces are hinged as in No. 36, and joined down the middle of the chin. The tail-piece at the back has a collar with a female screw thread for the stem of the disc or roundel. At the bottom this tail-piece, about an inch wide, is not jointed as in No. 36, but its extremity is turned out so as not to offer a cutting edge when the wearer threw back his head. Round the lower edge of the cheek-pieces is a band of iron about seven-eighths of an inch wide (broken away in parts) which covers a leather strap; the iron band being fixed by rivets with heads stamped with a rosette identical with those described under No. 19 and illustrated at Fig. 16 B. These rivets, together with the similarity of the helmet to examples known to be Italian, would stamp it as of Italian manufacture.³ To the leather strap just mentioned originally hung a

¹ Woolwich Catalogue, Class xvi, No. 211.

² The author saw at Munich some years ago a similar helmet also without a visor. He cannot call to mind any other examples of the armet with staples.

³ Viollet-le-Duc, in his "Mobilier," tome v, p. 65, describes and illustrates an almost identical armet in the Musée d'Artillerie. As the armet is drawn both open and shut, its construction is thereby rendered clear.

camail. With this helmet (and, when hanging in the church, fixed to it) is a piece, Fig. 34, which is composed of two distinct mentonnieres riveted together. The inner one is small, something like the one seen on the helmet, Fig. 37, and its principal object would seem to have been to prevent the visor from being driven up by a blow on the chin-piece of the helmet. The outer one is much larger, reaching almost up to the slit for the eyes. It was secured originally by a strap round the back of the helmet. But it is impossible now to say whether it belonged to the helmet as originally made, or was a later addition. It fits fairly well, and a similar mentonniere appears strapped on to the armet of the suit attributed to Ferdinand the Catholic, at Vienna, an armet of the same type as this one. On the helmet is a wooden Saracen's head (not represented in the engraving, Fig. 33) which may date from Sir George Brooke's funeral, but was certainly never worn on any helmet.

Original crests are of excessive rarity. The author believes the so-called helmet of Don Jaime the Conqueror, at Madrid, to be neither more nor less than the crest of a helm. It is made of canvas or pasteboard covered with gesso and painted, and represents the head, neck, and wings of a dragon. Why Mr. Planche¹ described it as "*all of polished steel*" is a mystery.

No. 39. Fig. 35.

Armet, probably Italian, of remarkably fine form
from Padua. Date 1480 to 1500. *The Baron de Cosson.*

This armet shows many advances towards the form finally adopted for the close helmet in the sixteenth century. The visor cannot be removed, the slit for sight is in it, not above it, and the reinforcing piece on the crown does not exist. There is also a spring catch on the right hand side to hold the visor down when closed, so that the mentonniere is not necessary. The metal and workmanship are remarkably fine. The crown-piece has a slight ridge, of which a section is given at A, Pl. III, and in it are two holes for fixing a plume or crest. The cheek-pieces, fixed together by a turning pin in front, are hinged just behind the pivot of the visor. The tail-piece of the crown has a stem for the roundel, which has been restored. Each cheek-piece has a set of holes opposite the ears for hearing through, and some small holes at the back which correspond with holes in the tail-piece, perhaps for lacing or for fixing plumes. Round the bottom of each cheek-piece is a plate of steel on which is rivetted with rivets stamped like the one drawn at B on Plate II, a leather strap at the lower edge of which the holes through which the rings of the camail passed can still be traced.

In Plates 41 and 42 of the "Triumph of Maximilian," Antony von Yfan and his knights wear armets identical with this one, all with camails and with crowns and huge plumes.²

¹ "Cyclopoedia of Costume," vol. ii, p. 76. The Madrid catalogue says: "Es de carton muy fuerte . . . Està dorado en parte, e interiormente cubierto de esponja." This lining of sponge is a very curious feature. The author has seen the

piece, so can be certain on the matter. The large photograph of it by Laurent also shows there is no polish on it.

² This helmet weighs 7lbs. 9oz., and has an armourer's mark H9R over a tilting shield.

No. 40. Fig. 36.

Armet, English. Date about 1500.

The Executors of the late Mr. J. W. Baily.

All the general features of this head-piece are so similar to those of armets, already described, that a reference to Fig. 36 will show where it differs from them. It is rather damaged by rust. There is a reinforcing piece on the forehead; the breathing holes are principally on the right side of the visor, the pin and hinge arrangement for the pivot of which still exists, but it is concealed between the visor and the crown-piece of the helmet, thus being out of danger from an adversary's lance. There is a band of steel around the base of the helmet, but no leather remains beneath it, and the place of a disc or roundel is clearly indicated at the back.

The small close-fitting mentonniere or bavier (which here is not continued so far on the right as on the left side) is the peculiar feature of the English armet of about A.D. 1500.

It will be seen again in No. 37, and exists in a similar armet now in the author's collection, which was formerly in Rayne Church, Essex, and which will be mentioned under No. 80. Sir Samuel Meyrick obtained one with a similar bavier from Fulham Church,¹ and there are two or three in the Tower collection. Mr. Baily's armet is now in the author's collection.

No. 41. Fig. 37.

Armet, English. Date about 1500.

Mr. Seymour Lucas.

This armet more nearly approaches the form of helmet common in the sixteenth century, for, instead of opening down the chin and back, it opens down the sides, and the same pivot which secures the visor² serves to hinge the crown-piece and chin-piece together. The small mentonniere here is of equal extent on both sides. A sort of rosette is hammered up on either side of the reinforcing piece just behind the visor pivot. The general form is good, but the workmanship, as in most pieces of undoubted English origin, wants that perfection and delicacy to be found in fine Italian or German work.

No. 42. Fig. 38.

Helmet, fluted German. Date 1510 to 1525.

The Baron de Cosson.

The form of the visor in this helmet bears much resemblance to that of the armet, Fig. 35. The forging of the crown-piece is particularly fine. The helmet only weighs 5lbs. 2ozs.

It has been usual in England to assign these fluted helmets to the reign of Henry VII, but there is no evidence whatsoever that the fluted suits of armour to which they belong were worn even in Germany before 1510.

¹ "Engraved Illustrations," vol. ii, plate 76.

² At some time this visor has had the

pin and hinge arrangement like No. 40. The holes for the pins have been stopped, but they can still be traced.

The fashion of parallel, or almost parallel fluting on armour with globose breastplates seems to have come from Milan, whence it was taken into Germany by the Emperor Maximilian.¹

Meyrick states that Burgmaier's portrait of that prince (dated 1518) is the earliest dated example of fluted armour, but he assigns one of his own fluted suits to 1495, and in the "Critical Inquiry" he speaks of fluted armour as the prevalent fashion of the reign of Henry VII.

No. 43. Fig. 42.

Helmet of fine form of the time of Maximilian, Emperor of Germany. Date about 1515. *Mr. W. Burges.*

Although not fluted this helmet belongs to the period and style of fluted armour. The visor shows that series of peaks or ridges so common in the helmets of fluted suits.

Part of the lining is original in this helmet, and Mr. Burges has restored the aiglettes which kept the lining in its place. It has been usual to suppose that the twin holes in the crown-pieces of these helmets were intended for fixing mantlings or lambrequins and plumes, and their very small size and their position in this and other fluted helmets would seem to favour that theory. Still in the tilting helms to be described later on, they will be found with brass rims on their outsides, and Albert Durer's celebrated print of a tilting helm shows the aiglettes tied through them just as in Mr. Burges's helmet, Fig. 42. In Sir Noel Paton's sallad, No. 30, Fig. 26, these aiglette holes are ornamented so that it would seem they were not intended to be covered up.²

No. 44. Figs. 39 & 40.

Helmet, fluted, of magnificent form and workmanship, partly engraved and with traces of gilding. Date 1510 to 1525. *The Museum of Artillery, Woolwich.*³

This helmet opens down the chin, somewhat after the fashion of the early armets, only the tail-piece of the crown is much broader.

The skill shown in the fluting of the crown and in the forging of the twisted comb are most remarkable. Along its upper edge are engraved various grotesque figures, and each of the rivets for the lining strap of the cheek-pieces forms the centre of an engraved six-leaved rose. The quilted linen lining of these cheek-pieces still exists. The small twin holes in the crown-piece of this helmet are differently disposed from those in the last helmet, there are two sets of them on each side of the comb, running parallel to it.

This head-piece also introduces us to that grooved rim round the

¹ As Italy was generally in advance of other countries in the fashion of armour, it is possible that the Milanese fluted armour may date from about 1500. The author has a fine example, the engraving on which might indicate that date, but he rather inclines to place it ten years later.

² Since writing the above the author

has obtained a fluted helmet of the type of No. 44, with its original lining; the fragments of the leather aiglettes which passed through the twin holes and kept the lining from flapping about the wearer's head still exist, Mr. Burges's restoration is thus quite confirmed.

³ Woolwich Catalogue, Class xvi, No. 21.

bottom of the helmet which has erroneously been supposed to constitute the difference between the burgenet and other helmets.¹

This grooved rim fitted closely on a salient rim at the top of the steel gorget or hausse-col. When the helmet was placed on its gorget and closed, it could not be wrenched off,² whilst it still moved round freely in a horizontal direction.

The gorget being articulated allowed of the head to be slightly raised or lowered, but to look really up or down must have been difficult with this system of helmet. Hence, notwithstanding its advantages, it never entirely supplanted the detached helmet.

No. 45. Fig. 41.

Helmet of a fluted suit. It opens down the centre of the chin. German. Date about 1520. *Mr. W. Burges.*

Although not so fine in workmanship, this helmet much resembles No. 43. The principal difference is in the form of the visor. A reference to the illustrations of these helmets on Plate III will explain this.

No. 46. Fig. 43.

Helmet, fluted, with triple comb. German. Date 1510 to 1525. *Mr. Wareham.*

The remarkable features of this piece are its three serrated combs and the mode in which the visor fits *inside* the chin-piece of the helmet instead of over it. The large rosette of the pivot of the chin-piece and visor is also remarkable.³

No. 47. Fig. 45.

Helmet of a fluted suit. German. Date 1515 to 1530. *The Baron de Cosson.*

There is a problem in connection with many helmets of this period and type which awaits a solution, and that is how their visors were fixed when down. In this helmet and the two next to be described, in common with the greater part of those of this type which have not been altered or vamped up at a later date, the only trace of fixing down the visor is a small round hole on either side of it near its lower edge, which, when the visor is down, exactly corresponds to a similar hole on each side of the chin-piece of the helmet.

These holes only and always appear on those fluted helmets which have no other visible mode of fixing the visor when down, so they must be for that purpose, but they are so small (from one-sixteenth to one-eighth inch diameter) that it is not easy to understand how they were used.

No. 48. Fig. 44.

Helmet of a fluted suit, German, with mark of a Nuremberg armourer and an arsenal mark in Russian characters. Date 1515 to 1530. *The Baron de Cosson.*

Very similar to No. 47, but without any comb.

¹ See introductory notice on burgenet and buffe.

² We read in Olivier de la Marche of helmets being wrenched off the heads of

their wearers when tilting and leaving their faces covered with blood.

³ The fluted suit, G 21, in the Musée d'Artillerie has a helmet identical with this one in form and construction.

No. 49. Fig. 46.

Helmet of a fluted suit, said to have come from Poland. Nuremburg mark and arsenal mark in Russian characters. Date 1515 to 1530.

Mr. W. Burges.

Almost identical with No. 48.

No. 50. Fig. 47.

Helmet, the visor in the form of a grotesque face. The visor belonged to a helmet of the Maximilian epoch; the rest of the helmet is of later date. From the Meyrick collection.¹

Mr. W. Burges.

The surfaces of the metal (which is unpolished) in the visor and the rest of the helmet are very different in this piece. There is also a hole in the former for the spring catch which originally fixed it down, but no corresponding catch exists in the helmet, besides which the form of the helmet belongs to the reign of Mary or Elizabeth, whilst these grotesque visors in the form of a human face with moustachios are frequently enough found on fluted suits of armour of the Maximilian epoch. There are two in the Musée d'Artillerie and one is at Vienna, whilst the Tower collection possesses a fluted helmet with this form of visor which came from the Bernal collection, and M. Spitzer in Paris has a magnificent puffed engraved and gilt suit with the steel bases of the Maximilian epoch and a helmet with a similar visor.

No. 51. Fig. 48.

Helmet, Italian. Date 1520 to 1540. *The Baron de Cosson.*

The gorget plates are a restoration. The helmet is small, and the sharp form of the visor recalls that of the armet, No. 39, Fig. 35. Here for the first time we find the visor formed of two separate parts. The upper part fits inside the lower one and could be raised to facilitate seeing, without unfixing the lower portion. We shall find this system of visor prevalent throughout the last three quarters of the sixteenth and the first quarter of the seventeenth centuries.

No. 52. Fig. 49.

Helmet, Italian, with engraved and gilt bands of ornament. Date 1520 to 1540.

Mr. R. Hillingford.

A very small, but prettily shaped helmet. It appears to have been originally in the Uboldo collection at Milan, as an engraving in Uboldo's work on helmets exactly corresponds to it. The ornamentation consists of foliage.

No. 53. Fig. 50.

Helmet, richly engraved, probably German. Date 1440 to 1460.

Mr. R. Hillingford.

There is a piece riveted on to the lower back part of this helmet which has no engraving on it. It appears to be an old mend, the part of the

¹ "Engraved Illustrations," vol. ii, plate 75.

helmet covered by it being cracked. It is a head-piece of very fine workmanship, and the salient lines of the visor are well calculated to deflect the point of a weapon. The engraving consists of a grotesque figure, foliage, &c.

No. 54. Fig. 51.

Helmet, probably Italian. Date 1540 to 1560.

The Baron de Cosson.

Helmets of this form were used in various countries, but, as this one came from Rome, it probably is of Italian make. The plates of the gorget are a restoration.

No. 55.

Helmet, removed from the Ffarington Chapel in Leyland Church in 1816. Date 1550 to 1560. *Miss Ffarington.*

Similar to the last in type, this helmet was principally interesting from the fact that it had doubtless been worn by an ancestor of the lady by whom it was exhibited, Miss Ffarington of Worden, near Preston.

No. 56. Fig. 53.

Helmet, German or French, with screw for tilting piece and straps inside to take the weight of the helmet.

Date 1550 to 1570.

The Baron de Cosson.

At the date assigned to this helmet a number of suits of armour were made, which could either be used as war harness, or by the addition of certain pieces become tilting suits. The screw on the front of the visor of this helmet was for the purpose of securing it to the *haute pièce*, a large guard which was fixed to the breastplate and covered the left side of the jousting from about the level of the elbow up to that of the eyes. When the helmet was screwed to this piece the wearer could neither turn nor move his head, and the existence of the rim at the bottom of this helmet shows that it was often meant to be worn without the *haute pièce*. There is a small door on the right side, which will be seen open in the next helmet, Fig. 54. As when the *haute pièce* was screwed to it, the visor could not be raised, this door was made in that side of the visor which was not covered by the *haute pièce*, so that by opening it the wearer could breathe more freely.

It has been absurdly supposed that the object of these doors was to allow the wearer to blow a horn! They are only found on helmets used for tilting. Meyrick states that it was through this door flying open that Henry II. of France was killed. Mr. Burges has disposed of that fiction.¹

The door in this helmet is secured by a spring catch worked by a leather thong. The upper portion of the visor is secured to the lower in the same manner, whilst the catches which fix the visor when down and close the helmet are locked by means of hooks. On the right side will

¹ *Archæological Journal*, vol. xxxvi, page 78.

be seen some small holes opposite the ear, for hearing through. The most curious feature in this and the next helmet is the existence of two cross straps inside the top of it, riveted to the front part of the helmet and secured at the back by aiglettes. The existence of one of the original aiglettes in the next helmet gave a clue to the working of these straps, which took the weight of the helmet, and thus prevented the cap from pressing against the crown of the helmet or being wrenched from the strap to which it was sewn. The original leather lining of the chin-piece still exists.

No. 57. Fig. 54.

Helmet, German, of a suit that could be worn for tilting. It had a screw for tilting pieces. The original lining remains with cross straps above it to take the weight of the helmet. Date 1550 to 1570.

The Baron de Cosson.

Similar to the last helmet in construction, but heavier, weighing 10lbs. 10ozs. The original wadded and quilted lining cap and the wadded lining of the chin-piece exist, covered on their inside with red silk now almost colourless, and the cap is bound round with a strong binding also formerly red. The existing aiglette is made of this same binding, which is about an inch wide. The cross straps in the crown of these helmets intersected one another, and when tied by their aiglettes, which passed through slits in their free ends, formed a sort of spring against which the cap rested when the helmet was on. There are two holes, nearly a quarter of an inch in diameter, with female screw threads in the upper part of the visor, the use of which is not very apparent. Similar holes, much smaller and with no screw threads, exist in the visor of the last helmet.

No. 58. Fig. 55.

Helmet, probably Italian. Date 1550 to 1570.

The Baron de Cosson.

A strong compact head-piece somewhat similar to the last two, but not intended to be used with tilting pieces. It has, as will be seen in the representation of it, its original fastening at the side, the bar to keep the visor up when raised, and a spring catch to keep the visor down when closed. The upper half of the visor is secured to the lower with a spring worked with a thong as in the two preceding examples.

No. 59. Fig. 52.

Helmet, probably Italian, engraved with arabesques.
Date 1550 to 1570.

The Baron de Cosson.

The comb in this helmet assumes much larger proportions than in those as yet noticed. The fashion of high combs will be found carried to a very great excess about this time in many morions. Until the end of the sixteenth century there is no join in these combs and their forging must have required much skill. The gorget plates of the

helmet are much spread out all round. They gradually increase in dimension until the beginning of the seventeenth century, when they often (as in Fig. 58) assume very large proportions. The engraving on this helmet is pure line.

No. 60. Fig. 56.

Helmet, Italian, richly engraved with bands of arabesques. Date 1560 to 1580. *The Baron de Cosson.*

The style of engraving on this helmet, viz., bands of trophies, grotesque animals, &c., on a ground etched down but with bright points like grains of seed left on it, is found on great quantities of Italian armour of this period, known amongst amateurs as Pisan armour, it being supposed (upon what authority the author cannot say) that a great manufactory of it existed in that town. The helmet under consideration is a very perfect example, and, like many of this period, it is kept together at bottom with a strap under the chin and a buckle, a rather unsightly mode of closing it. The visor is fixed, when down, with a hook, a fashion which henceforward takes the place of all the ingeniously contrived spring catches before in use. It will be seen in the engravings of the next two helmets.

No. 61. Fig. 57.

Helmet, probably French. Date about 1600. *The Baron de Cosson.*

Although very similar to the last in form, this helmet shows a marked decline in the armourer's art. The crown of it is formed of two halves brazed together down the centre of the comb. After the year 1600 scarcely any helmets are met with in which the crown-piece is forged in one piece, whilst in every genuine helmet of the fifteenth or sixteenth century which has come under the author's notice, the reverse is the case.

The fashion of high combs may have led to this decadence, but it is more likely that the indifference which began to be felt about armour at this time, and the feeling that it was no longer really needful, led to a decay in the art of producing it, for we shall soon find helmets with no combs (Figs. 63, 64 and 67), all of which are joined down the middle.

No. 62. Fig. 58.

Helmet, probably French, with reinforcing pieces on the crown and numerous brass-headed rivets. Date 1600 to 1610. *The Baron de Cosson.*

The total weight of this piece is 10lbs, and almost all the thickness is in the crown audits reinforcing pieces, the visor being very thin. That shows that the lance had by this time been completely abandoned as a weapon of war, for so long as it was used the visor was always one of the strongest parts of the helmet. The great strength given to the crown of this helmet would seem to indicate that it was intended principally to be worn when approaching ramparts in siege operations.

It is true the reinforcing pieces could be removed, being fixed on with screws. From this time forwards no studied beauty of line will be found in any helmet.

No. 63. Fig. 60.

Helmet, probably from Savoy, with circular apertures for the eyes. Date 1600 to 1610. *The Baron de Cosson.*

A number of helmets of this form in the Arsenal at Geneva are said to have been taken from the Savoy troops who, under Branaulieu Chaffardin, attempted to take that town by surprise in 1602.

This helmet is very heavy. It has had reinforcing pieces on the crown, like the last example. Without them it weighs 12lbs. 8oz. A particular form of helmet was known Germany during the Thirty Years War as a "todtenkopf," or death's head. This probably is the kind of helmet thus designated. It has a rough surface and seems never to have been polished. It may be noted that the upper portion of the visor here fits over the lower portion instead of inside it, as in the helmets already described.

No. 64. Fig. 59.

Helmet having belonged to a Marquis Duprat of the Limousin, with his escutcheon on the gorget. Date 1600 to 1610. *Mr. R. Hillingford.*

Similar to the last helmet in type, this one is superior to it in ornamentation, but it is inferior in form and has no comb whatsoever, the two halves of the crown-piece being simply rivetted together instead of one being rolled over the other along the summit of the comb, as in the last two helmets. It is kept closed by a strap and buckle under the chin. The engraving on it is remarkably good in style.

No. 65. Fig. 61.

Helmet, Italian, it has been partially gilt. Date 1620 to 1630. *The Baron de Cosson*

Thin and light. The comb and the borders of the different pieces of it have been gilt. The visor is only pierced with holes for respiration on the right side, as if the helmet had been intended for tilting. An attempt was made in France to revive tournaments in the early part of the reign of Louis XIII, as will be seen by Pluvinel's "Instruction du Roy en l'Exercice de Monter a Cheval," which contains plates of the armour and tournaments of that time.

No. 66. Fig. 62.

Helmet, Italian or French, with vertical slits in visor. Date 1620 to 1340. *The Baron de Cosson.*

The new features in this helmet are the sort of shade or peak projecting from the upper part of the visor and the fact that the slits for the eyes are cut out of the lower portion of the visor. The next two helmets will

both exhibit the same construction. These peculiarities already appeared to a certain extent in the Savoy helmets, Nos. 63 and 64, Figs. 60 and 59. There is no trace of a join down the crest of this helmet.

No. 67. Fig. 63.

Helmet. Date 1620 to 1630.

The Executors of the late Mr. J. W. Baily.

One of the finest examples of the helmet of this period. The crown and upper part of the visor are closely fluted. The holes for respiration in the visor are cut in elaborate forms and a profusion of rivets ornament the gorget. This form of helmet seems to have been common to England, France and Italy at the same period, but is rarely of such fine workmanship. This example is now in the author's collection.

No. 68. Fig. 64.

Helmet, English, time of the Civil War. Date 1630 to 1645. *The Baron de Cosson.*

Similar in form to No. 67, but very inferior in workmanship.

No. 69. Fig. 65.

Helmet, English, time of the Civil War. Date 1630 to 1645. *The Baron de Cosson.*

The visor here is in one single piece instead of in two portions.

No. 70. Fig. 66.

Helmet covered with engraving. It opens down the front. End of the reign of Elizabeth. Date about 1590. *The Honorable Society of the Middle Temple, by Mr. C. Milward.*

In construction this head-piece is half way between a casque or burgonet and a close helmet. In fact, as it has no movable visor, it is really a casque with cheek-pieces that meet in front. Hence it has not been placed among the close helmets of its period. The crown-piece is joined down the middle of the comb. The late and lamented Mr. Bernhard Smith described in vol. xvii. of the *Archaeological Journal* how he had drawn attention to a quantity of armour which lay in the Minstrels' Gallery of the Middle Temple Hall. Amongst it, and painted black, was this helmet and the breast-plate and back-plate belonging to it.

The engraving is very good, and traces of gilding still remain. Mr. Bernhard Smith thought 1575 to be about the date of the piece, but the fact that the crown of the helmet is formed of two pieces would indicate a somewhat later date, unless this bad system of construction began earlier in England than elsewhere, but the devices upon it point to its having been made after 1585. Mr. Bernhard Smith supposed the work to be Milanese. The engraving certainly appears to be the work of a

foreign artist, but there are reasons for supposing it might be of Flemish origin. Here is Mr. Bernhard Smith's account of the devices on the helmet and breastplate.¹

"The helmet is covered with a design formed by branches of a briar rooted in a heart supported by two hands issuant from clouds. The briar blossoms with heraldic roses, whilst amongst its branches are snails, owls, goats and monkeys, crested serpents, flies and locusts, with a sun appearing here and there.

"On the upper portion of the cuirass (which is of the peas-cod shape) are three escutcheons charged respectively as follows:—1. A demi-lion crowned, issuant from water (the arms of Zealand); 2. A lion rampant; 3. A lion rampant crowned; the latter is ensigned with a coronet, and above is an open dexter hand, issuant from a cloud. Below on the centre of the cuirass appears the allegorical figure of a woman nude tied to a tree, her left hand chained to a branch. The inscription *BELGICA* appears on a tablet under her feet. On the dexter side is seen a lion rampant grasping a sword, apparently rescuing her from a sea monster; on the sinister side is a dragon."

All these devices would seem to refer to Leicester's expedition into the Low Countries in 1586.

Coins of Elizabeth (to whom the sovereignty of the United Provinces had at one time been offered) are found countermarked with the arms of Zealand, arms which are found on the breastplate, and the author of these notes possesses a weight of the reign of Elizabeth, on one side of which is stamped the rose and crown of England between *L* and *C* for *Leicester Comes* and on the other the arms of Zealand, indicating that it was made for use in that country during Leicester's occupation of it. Of the other escutcheons on the breastplate, that with the lion rampant may be either Flanders, Brabant, Juliers, or Holland; whilst the lion rampant crowned is the arms of Guelders.

As Leicester had weights for Zealand stamped with his own initials, may we not here have a helmet and cuirass made for the great earl himself during his occupation of the Low Countries? The hall of the Middle Temple was built in his days. It is quite possible that some of his armour may have been deposited there either then, or after some of the masques often held in that hall during the seventeenth century.

No. 71. Fig. 67.

Helmet, with a curious form of occularium. It opens down the front. Date about 1640 to 1656. *Mr. W. Burges.*

Somewhat similar in construction to No. 70, but in this helmet the projecting shade is hinged at the sides like the upper portion of the visor, in Figs. 63 and 64. Although this latest form of close helmet recalls the very earliest form of armet, in its mode of fastening down the chin, it is clumsy and debased in shape and workmanship.

¹ *Archæological Journal*, vol. xviii, page 154.

No. 72. Fig. 68.

Miniature Helmet. Probably the "Capo d'Opera" of an armourer. The ornamental pattern, formerly gilded, is executed by punching. Date about 1580.

Mr. W. J. Bernhard Smith.

This is a charmingly made little piece, and the ornament done with a punch instead of being engraved is interesting. The miniature suits of armour occasionally met with, were either made by armourers as show curiosities, like the hundred-bladed penknives of modern cutlers, or more probably as toys for boys of noble birth to play with.

No. 73. Fig. 69.

Helmet from a model suit of armour, Italian. Date about 1580.

The Baron de Cosson.

This belongs to a suit of steel armour, very well made and ornamented with some engraving. It is $13\frac{1}{2}$ inches high and distinctly Italian in form. It was no doubt intended for a toy. In the "Life of Maximilian" the young emperor and another boy are represented playing with two little models of jousts on horseback which they drive one against the other. In the Musée d'Artillerie are two miniature suits of tilting armour very perfectly made which were no doubt intended for the same purpose. They were formerly in the collection of the emperor Napoleon III at Pierrefonds.

No. 74. Fig. 70.

Small model of a Helmet in brass, with face inside. Date about 1620.

Mr. W. Burges.

This belongs to a complete little suit of armour, of the period of Charles I, made in brass, and the face, with its pointed beard and retroussé moustaches has the character of that time.

TILTING, JOUSTING, AND TOURNAMENT HELMS.

No. 75. Figs. 72 and 73.

Helm of Sir Richard Pembridge, one of the earlier knights of the Garter, who died in 1375 and was buried in the nave of Hereford Cathedral. It stood on a perch over his effigy there, until presented by the Dean and Chapter to Sir Samuel Meyrick. In 1786 this helm was described and figured, though with indifferent correctness, in Gough's "Sepulchral Monuments." It has likewise been engraved in Skelton's work on the Meyrick collection.¹ In general form and certain details

¹ Plate xi.

of workmanship, this helm closely resembles that of the Black Prince in Canterbury Cathedral. In both, remains of the original leather lining are traceable round the internal rivets, but in this specimen the *spiracula* occur on both sides of the *mezaril*, while this part (probably at one time the whole of the helm) proved, on the removal in 1872 of three thick layers of oil paint, to have been silvered. The dent behind was probably made by the fall of part of the roof of the southern aisle in 1786, when the right leg of the effigy was shattered. Date, fourteenth century.

Sir Noel Paton.

Genuine helms of this period are of such rarity that three only are known to the author, that of the Black Prince,¹ that found with a bassinet and part of a suit of armour under the ruins of the Castle of Tannenburg,² and this one. Demmin says that No. 570 of the Copenhagen museum is almost identical, and that a similar helm is preserved in the Francisco-Carolinum museum at Lintz.³ There is also one in the Tower which appears to be genuine. With the open bassinet, like No. 13, fig. 9, over which it was worn when on the battle field or in tilting; it formed the typical defence for the knight's head in the second half of the fourteenth century.

It was, in Italy at least, worn slung over the back, and was generally surmounted with a large and fanciful crest. It did not fit closely down to the cuirass, like the helms of the fifteenth century, the bottom curve of it not being sufficiently arched for that purpose. This is very apparent, if we examine the statue of Mastino II at Verona, who wears a helm of this kind⁴ It will be seen there not to rest on his shoulders, and it was probably wadded inside, so as to fit closely to the bassinet.

In a fresco, representing a number of knights of the Lupa family, in the Chapel of St. George at Padua, each man wears a small bassinet on his head and his helm slung to his back; and Can Grande in his statue at Verona⁵ wears his in a similar fashion.

That Sir Noel Paton's helmet was not a funeral helmet, but one really intended for use, is proved by its admirable workmanship. From a very close and careful examination of it, it would appear that the statement contained in Sir Noel's account of it, that it had once been silvered, is an error, caused by the very beautiful quality of the metal of which it is made. The hardest English penknife blade will not produce the slightest scratch on the bright parts, which are consequently not silvered, but retain the original polish, which in the vertical parts of the helmet had been preserved by the three coats of paint removed in 1872. No silver would resist a hard steel point, but here we have a metal superior to it in hardness.

In the Black Prince's helmet the lower or cylindrical portion of the

¹ An electrotype copy of this helm was exhibited, and is described under No. 142.

² Hefner's "Trachten," vol. ii, plate 149, and Hefner's "Die Burg Tannenburg und ihre Ausgrabungen."

³ "Guide des Amateurs d'Armes," p. 271, No. 37.

⁴ Conte Pompeo Litta "Famiglie Celebri Italiane," vol. i; and Bonnard, "Costume," plate 63.

⁵ Also engraved in Litta's book.

helmet is composed of a front and a back piece riveted together at the sides, but in the Pembridge helm each of the three pieces (the cylinder, the conical piece, and the top piece) of which it is formed is so deftly welded that no trace whatsoever of a join can be found. These three portions are fixed together, not with rivets, but with *nails* with hemispherical heads (three-sixteenths of an inch in diameter), the points of which are turned down on the inside. Every third nail of the row on a level with the occularium or slit for the eyes has a diamond shaped washer, which formerly secured the leather strap to which the wadded lining was sewn. The edges of the metal, turned outwards round the occularium, are exceedingly thick, thus effectually protecting the eyes. There are a number of twin holes in the helmet, which served for the aigletts by which the crest and lambrequin were attached.¹ The bottom edge of the helm is rolled inwards over a thick wire, so as not to cut the surcoat. In the front of the helm, near the bottom, are two + shaped holes, through which passed a T bolt, affixed by a chain to the cuirass.² There are two holes at the back of the helm for lacing, or, perhaps, for a leather strap to affix it to the back of the cuirass. That prolongation of the bottom plate which divides the slit for sight into two halves (a characteristic of the helm until nearly the end of the century) is engraved on a larger scale at A on plate vi.

No. 76. Figs. 74 and 75.

Helm of Sir Nicholas Hawberk, who died in 1407.

From Cobham Church, Kent.

The Rev. A. W. Berger.

This helm is almost identical in form with the one attributed to Henry V in Westminster Abbey,³ except that it has not got the ornamental brass border, which was probably an addition made to render that helm more ornamental at the funeral pageant of the sovereign. At the time when these helmets were worn, the *visored* bassinet was in vogue as the fighting head piece of the knight. It was therefore no longer necessary to put a helm over it on the battle field, and it is probable that henceforward the helm properly speaking was only used in the tilt yard or tourney, the lighter bassinets, sallads, chapels and arnets being used in actual warfare. This helm is made of five pieces, instead of three, like the Pembridge one, and it is of very much greater weight. At the lower edge of the eye slit the metal is a full quarter of an inch in thickness, the plates at the back part of the helmet being very thin and light. The heads of all the rivets are flush on the outside, so as to leave no projection against which the point of a lance could catch. The summit of the helmet is formed of an egg-shaped piece nearly flat, let in from the inside, and on it are four staples for fixing on a crest.⁴ The bottom edge of the helmet is rolled outwards, but not over a wire, and just above this rolled edge, round the front and the right rear of the helm, is a series of twin

¹ They will be found in numerous monuments representing helms of this type, notably the Scaliger and the Lupa monuments, already referred to.

² This arrangement will be distinctly seen in the monument of Conrad von

Sawensheim (died 1369) in Hefner's "Trachten," vol. ii, pl. 159.

³ A cast from Henry V's helmet was exhibited and is described under No. 144.

⁴ Similar staples are seen on a tournament helmet at Sigmaringen, engraved by Hefner, "Trachten," vol. ii, plate 137.

holes for sewing in the lining, but they are not continued round the left rear. There is a ring in front for strapping the helmet to the breast-plate. The ring here seems very inadequate to the strain it would have to support, and the same is observable in the helmet of Henry V, but in both cases these rings may not be the original ones; indeed the mode in which the ring is attached is so clumsy and rough that there can be little doubt on the point. Various holes in the upper part of the helm were probably intended for the aiglettes which secured the lambrequin or mantling. It has been supposed that the hook found at the back of this helmet and on that of King Henry V was intended for hanging the helm at the saddle bow. But the make of the hook, its very sharp point, and its position in the helmet, all point to its having been put there when the helmet was used for the funeral, so that it could be hung to the wall over the tomb.

It is exceedingly probable that this helmet and the next, both belonged to the knights to whom they are attributed, as the date corresponds very well with the fashion of the piece.

No. 77. Fig. 76.

Helm of Sir Reginald Braybroke, who died 1405.

From Cobham Church, Kent.

The Rev. A. W. Berger.

Quite similar to the last in type and character, this helm was in its original form much less deep. It has been subsequently lengthened, but it would seem very doubtful whether it was lengthened for *use*, as no holes in the additional piece exist either for attaching the helmet to the cuirass or for fixing in a lining, whilst the holes for the ring in front and the laces at the back are traceable at the bottom of the original helmet. It was probably merely lengthened when it was selected for the funeral to make it match the one just described. It has at the back a long handle like a saucepan,¹ which is likewise an addition. It may be mentioned as a conclusive proof that the piece added to the bottom of the helm was not intended for actual use, that it is very weakly joined *in front* as well as at the back. There is a round hole in the centre of the top of the helmet for fixing a crest.

No. 78. Figs. 79 and 80.

Tilting helm of the time of Henry VII. A very fine specimen, from the Brocas collection. Date 1480 to 1520.

*The Museum of Artillery, Woolwich.*²

This helm, perhaps the grandest jousting helm in existence, has been described and very well engraved in the *Archæological Journal*.³ It is formed of three pieces (of different thicknesses, as is the case in all genuine helms), which are fixed together by strong iron rivets with salient heads half an inch in diameter. On these rivet heads are soldered thin brass caps, which have in places been worn off through friction in cleaning, and this has led the writer of the notice in the *Archæological Journal* to say the rivets are curiously composed of three metals. All the

¹ Not represented in Fig. 76.

² Woolwich Catalogue, Class xvi, No. 20.

³ Vol. xxi, p. 60.

rivets used in armour, which appear to be of brass, are really made in this manner, as will become evident if we look at the reverse side. The front piece under the opening for sight has been rolled back for about one inch to give it additional strength, whilst the upper plate is reinforced just above the opening by a strong piece riveted inside it. There are four pairs of twin aiglette holes in the crown, probably for holding up the lining, which at its lower edge was secured by rivets which appear round the neck, or perhaps for fixing the crest, and two inches below the most salient point at the back of the helm is a hole with a screw thread, which may also have served to secure the crest. There are eight holes punched just behind the line of rivets on each side of the helm. These were probably made for ventilation after the helmet was finished, as they are most roughly executed. The arrangements for fixing the helm in front and behind are very complete and curious.¹ A small piece has been taken out of the left side of the lower part of the helmet by the blow of a lance.

This helm is probably an English one, for it much resembles in form two others which are presumably of English make, one being in Petworth church (not by any means so fine an example),² and the other having been found in the triforium of Westminster Abbey, where it had probably remained since the days when so many "solemn justs" were held at Westminster, as Hall and other chroniclers relate. This last helm is now in the Artillery Museum at Woolwich.³ In Ashford church is another tilting helm not unlike the Westminster Abbey example. The German jousting helms were generally elegantly fluted on their crowns and backs like the piece next to be described. There is a detailed account of the jousting helms in use in France in the middle of the fifteenth century in that MS. describing the armour worn in 1446-8, which has before been referred to, and it so exactly reproduces the kind of helm now under consideration that it is worth quoting:—"Et tout premièrement veuil commancer au harnois de teste, c'est assavoir au heaume, lequel est fait en ceste faczon, comme cy après me orrez déclairer; et premièrement lesdiz heaumes sont, sur le sommet de la teste jusques à la veue, fors et espes et un pou sur le rondelet, par faczon que la teste ne touche point encontre ançois y peut avoir espace de trois doiz entre deux.⁴ Item, de dessobz de la veue du heaume, qui arme par devant tout le visaige depuis les deux aurreilles jusques à la poitrine et endroit les yeulx qui s'appelle la veue, avance et boute avant trois bons doiz ou plus que n'est le bort de dessus et celui de dessobz ny a bonnement despacc que ung bon doiz et demy pour y pouvoir veoir,⁵ et n'est ladicte veue, tant dun costé que dautre, fendue que environ dun espan de long, mais volentiers vers le costé sénéstre est ladicte veue plus clouse et le bort plus en boute, dehors que n'est de l'autre costé droict.⁶ Item, et ledit dessobz ladicte veue marche volentiers sur la piece de dessus la teste deux

¹ The buckle at the back is shown on a larger scale at B, plate VI.

² Recently exhibited at a meeting of the Institute.

³ Deposited there as a loan by the Dean of Westminster in 1869, and engraved and described in the *Archæological Journal*, vol. xxv, p. 224.

⁴ The summit is to be slightly rounded

and a space of three fingers left between the top of the head and the helm.

⁵ The front plate of the helm is to project three fingers further forwards at the opening for sight than the crown piece and the opening to be a finger and a half wide.

⁶ The opening for sight in the example before us is of equal length at both sides but helms exist in which it is unequal.

bons doiz, tant dun cousté que dautre de la veue, et cloué de fors clox qui ont les uns la teste embotie et les autres ont la teste du clou limée affin que le rochet ny pregné.¹ Item, la piece dessusditte qui arme le visaiqe est voluntiers large et destendant presque dune venue jusques a la gorge, ou plus bas, affin quelle ne soit pas si près des visaiques quant les cops de lance y prennent. Ançois que le veult faire à point faut quil y ait quatre doiz despace du moins entre deux.² Et à ceste dicte pièce, du costé droict de la lance, endroit la joue, deux ou trois petites veues qui viennent du long depuis le hault de la joue jusques au collet du pourpoint, affin que l'en nait schault dedens le heaulme, et aussi affin que on puisse mieulx ouir ou veoir celuy que le sert de la lance.³ Item, l'autre piece dudit heaume arme depuis les aureilles par derrière le long du coul jusques trois doiz sur les espaulles par bas, et par hault, aussi jusques à troiz doiz sur la nuque du coul. Et vient faczonée une arreste aval qui vient en estroississant sur le collet du pourpoint, et se relargist sur les espaulles en deux ; laquelle pièce dessus dicte nest jamais faicte forte ne espesse, ançois la plus legière que on la peult faire est la meilleure ;⁴ et pour conclusion faire ces trois pièces dessus dites font le heaulme entier."⁵ This description so exactly corresponds to the jousting helmets of the type of Figs. 79 to 82 that it is clear the fashion of them did not much change during the second half of the fifteenth century. If armour be carefully studied it will be found that the changes in jousting and tournament harness were much less rapid than those in war harness. War harness always followed the form of the civil dress of the day, but jousting harness being made for a specific purpose was much less variable in its fashion.

No. 79. Figs. 81 and 82.

Helm for jousting of great strength and beauty of design, German, of the Maximilian period. Date 1480 to 1520.

Sir Noël Paton.

There is a wonderful series of German jousting harnesses now in the Musée d'Artillerie, mostly having all their original straps, buckles, targets, and various contrivances for rendering them of immense resisting power, and it is to a suit of the same type that Sir Noël Paton's helm has belonged. It is made like the preceding one of three pieces, but the rivet heads are not covered with brass caps. At the bottom of the back piece are three holes for riveting on the buckle. The lower part of the front of the helm has been cut off, so that the means of attaching it to the breastplate no longer exists. The perforations at either side for

¹ The front piece is to be turned over the crown piece at each end of the opening for sight for a width of two fingers. It is so in our helm but the heads of the rivets are neither sunk nor filed off as directed. The "rochet" is the coronal of the lance.

² The front piece is to be kept broad and straight, leaving four fingers between it and the face, so as to leave a good space between it and the head when it is hit by the lance.

³ Small apertures are to be pierced in

a vertical line on each side of the helm so that it may not be too hot inside and so that the wearer may see and hear him who hands him his lance. These holes will be seen pierced in very pretty shapes in Fig. 81.

⁴ The line of this ridge exactly corresponds to the ridges in Fig. 82 getting narrow at the neck and widening out at the shoulders. The back piece is always to be made as thin as possible.

⁵ René de Belleval, "Costume Militaire des Français en 1464," p. 6.

ventilation and hearing are cut in beautiful shapes, as will be seen in Fig. 81.¹ There are also three pairs of aiglette holes on each side (one pair in the crown-piece and two by the perforations just mentioned) edged with brass, which were used for securing the lining from flapping about in the helmet. In the two splendid jousting helms in Albert Durer's well-known prints, these aiglettes are represented tied in bows. The lower edge of the slit for sight is not turned back in this helm, but is very thick, and there is no re-inforcing piece inside the upper edge as in the last example. There is a hole three-quarters of an inch in diameter at the summit of the helm for fixing a crest and two small holes in rear of it. The fluting of the crown and back pieces is particularly graceful as will be seen in Fig. 82.

No. 80. Fig. 78.

Tournament helm of Sir Giles Capel, one of the knights, who, with King Henry VIII, challenged all comers for thirty days at the Field of Cloth of Gold. This form of helm was used for the combat on foot and perhaps for the tourney. It hung over the tomb of the Capels in Rayne Church until 1840, when the church was pulled down. Date 1510 to 1525. *The Baron de Cosson.*

The history of this helm is singular. Until old Rayne Church was pulled down, it hung there over the tomb of the Capels, Earls of Essex. On the destruction of the church it was included with another helmet, amongst the old iron sold to the builder of the new church, in whose yard it lay for years, until the artistic fancy of a very young lady was attracted by it and its companion, and she bought them; thus probably saving them from destruction. The second helmet is of the Elizabethan period, and only interesting from its associations, but upon learning that the large helm was a very remarkable and rare specimen, its owner, now Madame Courtauld Arendrup, most generously insisted that the author should add it to his collection. The same church of Rayne contained two other helmets in the belfry tower. These were obtained by a gentleman in the neighbourhood, before the destruction of the church. One is now in the Saffron Walden Museum, and the other, an armet of the time of Henry VIII has now passed into the author's collection.² These four helmets probably all belonged to the Capels, who lived at Rayne Hall, and were patrons of the church.

The reasons for identifying this form of helm with the bassinet, so often mentioned in the accounts of combats on foot in the second half of the fifteenth century and the first years of the sixteenth, have already been given.³ Just such a helm is shown in the miniature of the manuscript, entitled "How a man schalle be armyd at his ese when he schal fighte on foote,"⁴ and is there called a bassinet.

The visor in the Capel helm is of great strength and thickness, and the

¹ Another use for these holes has just been referred to in the description of No. 78.

² The Saffron Walden helmet is of

rather late date, the armet is of the type of Nos. 40 and 41, Figs. 36 and 37.

³ See preliminary notice on the Bassinet.

⁴ *Archaeological Journal*, vol. iv, p. 226.

numerous apertures are very small, so that no blow or thrust even with the sharp point of an estoc could injure the wearer, who at the same time could see well in whatever direction he turned his head. The pins and hinges which secure the visor are here ingeniously placed beneath the visor itself, so as not to be exposed to a blow. We often read in the accounts of tournaments that the hinges of the visor were carried away by an adversary's blow, hence this contrivance. "Le dict de Vandrey donna tel coup au clou de la visière du Comte, qu'il rompit le dict clou et demoura ladicte visière desclouée et pendant a l'autre clou, et avoit le Comte le visage descouvert."¹

The original pins remain in this helm, but the spring catch to secure the visor when down is gone, only the holes for it remaining. It is quite possible that a tilting visor could be used with the helm instead of the one that is on it. With the exception of the visor, it much resembles several helms that have tilting visors; the one next to be described for example.

There is a hole at the summit for fixing a crest and aiglette holes at the sides rimmed with brass, for securing the lining in its place. A helm of a similar type, but possibly earlier in date, with a ribbed visor and uncovered hinges, and a small bavair as in the next one to be described, hangs over the tomb of John Beaufort Duke of Somerset in Wimborne Minster. It was recently exhibited at the Institute, and will be shortly engraved in the *Archæological Journal*. There is a suit in the Tower attributed to Henry VIII and clearly made for fighting on foot, the helm of which is very similar to this one, and the Ambras collection contains several suits for fighting on foot with helms of this type.

No. 81. Fig. 77.

Helm of Sir Thomas Broke, seventh Lord Cobham, who died 1522. From Cobham Church, Kent.

The Rev. A. W. Berger.

Various helms of this type (which would appear to be peculiarly English, as it is not found in continental armouries) have been preserved in churches in England. The most beautiful and complete of them is the one in Broadwater Church, so carefully described and illustrated by Mr. Burges in a recent number of the *Archæological Journal*.² It is quite possible that this helm very much resembles the "heaulmet," or little helm, of Olivier de la Marche, and the "Challange de Phillip de Bouton,"³ for it partakes of the nature of the jousting helm and of the armet. It was doubtless intended for the tilt (or course with sharp or blunted lances) and not for jousting. The slit for sight is here cut out of the body of the visor, and above the slit is a reinforcing piece, which may have been put on to narrow the opening as it overlaps the upper edge of it. The lower edge of the slit is turned inwards to give extra strength. The pin and hinge arrangement at the sides of the visor is similar to that in visored bassinets and Italian armets.

As before said it is quite possible that different visors could be used with a helm of this kind, according as it was required for tilting, fighting

¹ Olivier de la Marche, p. 202.

² Vol. xxxvi, page 78.

³ See Introductory Notice on the Armet.

on foot, or the tourney. A small bavier below the visor protected the lower edge of it from an upward blow, but this has now been riveted on so tightly that the visor can no longer be raised. The lower part of the helm, both in front and behind, bears evidences that the mode of fixing it to the cuirass has undergone alterations, a horizontal slot in the front, through which a staple originally passed, is now partly covered by one of the rough hinge-shaped pieces of iron which are fixed with great clumsy rivets to the front of the helm, and which have served to secure it to the breastplate. The chin piece, as in the preceding helm (and also the Broadwater one) is hinged to the crown piece somewhat below the point where the visor is hinged. A finer helm of a very similar type, from the tomb of Sir John Gostwick in Willington Church, Bedfordshire, was exhibited at the meeting of the Institute, 4th November, 1880.

CASQUES, BURGONETS, AND BUFFES.

No. 82. Fig. 83.

Casquetel used by Archers. Date about 1500.¹*Mr. R. Hillingford.*

Mr. Hillingford has followed Meyrick in the name he has given to this form of helmet, but Meyrick does not say on what authority he used this word casquetel, nor has the author been able to discover whence he got it.

Meyrick's attribution of his own example to the reign of Henry VI.² (1422 to 1460) is as manifestly wrong as Demmin's idea that the piece dates from the seventeenth century.³

The style, workmanship, and form of the piece all point to the first years of the sixteenth century as the period of its production, and Mr. Hillingford is probably ten years too early in his date. A helmet identical with this one in general form, only ornamented with engraving and with diamond-shaped projections hammered up on its crown, exists with the half-suit of armour to which it most unquestionably belongs in the Bargello at Florence. The breastplate is globose with long tassets, and belongs to what is commonly called the Maximilian period of armour, its date being between 1505 and 1515. It is one of the best examples of that Milanese armour from which Maximilian probably borrowed the idea of the armour which so suddenly superseded the beautiful so-called *Gothic* German armour of the last quarter of the fifteenth century. Another helmet, plain and exactly like Mr. Hillingford's, only more perfect in preservation, is in the Brussels collection.

There are two casques of a similar form at the Musée d'Artillerie which came from Rhodes. In one of them the umbril or peak is fixed. The other more closely resembles Mr. Hillingford's, only the plates at the back being fewer and more salient, and the umbril not being so flat, it more approaches the form a sallad. Both have ribbed or fluted crowns, and clearly belong to the first years of the sixteenth century or possibly quite the end of the fifteenth.

¹ Now in Mr. Burges's collection.² "Critical Inquiry," vol. ii, p. 128. In the "Engraved Illustrations" the same

piece is given to the reign of Edward IV. vol. i, Plate xvi.

³ "Guide des Amateurs d'Armes," 293.

This form of helmet would seem to be the prototype of all the casques which will be found on Plate vii, its distinguishing features being a salient umbril in front and a slight curve outwards at the back of the neck to protect the nape. The face was exposed except when a separate vizor was strapped or otherwise fixed on to it. The reasons for identifying this helmet with the burgonet, and its movable vizor with the buffe have already been given.¹

No. 83. Fig. 84.

Casque, German; the bavier could be removed. Helmets similar to this in form occur on some fluted suits of the Maximilian type. Date 1515 to 1530.

The Baron de Cosson.

Similar in general form to the last helmet this one has in addition two cheek-pieces which meet under the chin.² It has also a moveable and separate guard for the face and chin, which, when fitted on, was held in its place by a button and turn-buckle arrangement. Both the helmet and this separate vizor or chin-piece have been lined throughout. The whole probably represents the "burgonet with a buffe or chin-piece" mentioned as belonging to the foot armour of Henry VIII in the "Survey of the Tower," written in 1660. It is a light kind of head piece, the whole only weighing 3lbs. 15½ozs., and yet it forms a very perfect defence against a sword or light lance and was eminently adapted for lightly armed cavalry, "*cavagli leggeri*," such as composed the celebrated "*bande nere*" of Giovanni de Medici, who for lightness and convenience armed them with "*celate alla borgognona*." There is a very fine Italian half suit in the Musée d'Artillerie which came from Pierrefonds (where it was called a light horseman's suit) with just such a helmet as this one, only the moveable chin piece is replaced by bars fixed to the umbril. The breast is globose and the suit which is repoussé in a most beautiful design, is of the same make and date as the one in the Bargello just referred to.

No. 84. Fig. 85.

Casque, Italian, engraved. The engraving is gilt, the ground russet. Date 1530 to 1540. *The Baron de Cosson.*

On one side of the crest of this gracefully formed helmet are the following characters IO IA⁴ P^{EDICINVS}. On the other side MILITVM DVCTOR, and to this some one has added in a rough way SVB KAROLO. V, but the addition instead of being etched like the original inscription is hammered in with a chisel. It might be the work of a soldier to whom the piece belonged, but is more probably that of a modern dealer.

The rivets have brass washers of pretty design, one of which is drawn half size at A near Fig. 85.

¹ See introductory notice on burgonet and buffe.

² It is quite possible that the previous helmet had very small cheek pieces, a space for them seeming to exist between the umbril and the tail piece but no trace of a hinge was to be seen. If they

existed they were only fixed by a leather riveted to the crown-piece,

³ See introductory notice on burgonet and buffe.

⁴ The I traverses the o forming a monogram resembling the Greek Φ. The IA also are formed into a similar monogram.

No. 85. Fig. 86.

Casque, Italian, engraved with arabesques. Date
1530 to 1540. *The Baron de Cosson.*

The form of this helmet is particularly graceful and classic and its execution very good. There is a figure of Cupid on each side of the comb and the arabesques are well designed. The engraving is pure line, not as in later Italian work thrown up by a deeply etched ground. Many rich suits of armour had one of these light open helmets as well as a close helmet, a fact proved by existing examples at Madrid and elsewhere.

No. 86. Fig. 87.

Casque of steel repoussé work, Italian ; subject Mars
with Peace¹ and Fame holding his moustaches. Date
about 1540. *The Executors of the late Mr. J. W. Baily.*

This and the following helmet were the only specimens of the famed Italian repoussé work of the sixteenth century in the exhibition. The taste for this highly ornate kind of armour having existed much longer than that for simpler pieces, very little of it is to be found out of public or princely collections.

Two helmets of similar design to this one, but finer in execution, are the one at Madrid and the other at the Musée d'Artillerie in Paris.

The Paris example² is of the very finest style and execution and is ornamented with small arabesques of inlaid silver. The principal difference in design is that the tablet on the front of Mr. Baily's helmet is replaced in the Paris one by an escutcheon whereon is the inscription ΤΑΥΡΑΙΧ ΗΠΟΣ ΑΣΤΕΗ inlaid in gold. The meaning of these character is not at all clear. The female figures also extend their arms holding the palm branch and trumpet downwards, instead of outwards. There is also more life and energy in the head of the warrior, or Mars as Mr. Baily terms him.

The helmet in the royal collection at Madrid is thus described in the catalogue of the Armeria Real (1867) where it is numbered 2323. "Burgonet or Casque of the Emperor Charles V. On the front part of this beautiful piece are Victory and Fame holding the moustaches of a Turk wearing a lorica and lying on his back, who fancifully forms a crest. . . . On the front between the two said figures is a shield on which is written in letters inlaid in gold SIC . TVA . INVICT . E . CÆSAR. Inside the umbril of the helmet is the inscription F . ET . FRA . DE . NEGROLIS . FACI . A . MDXXXV. Sic tua invictissime Cæsar. Filippus et fratres de Negroli faciebant. Anno 1535. It is in many parts damascened in gold and weighs 4 lbs. 9 ozs. Spanish." The warrior here wears a turban, and the female figures sit facing the front of the helmet and are draped, nor do they end off in fishes' tails as in the Paris and Baily helmets. Still the general design is the same. It is most probable that all these casques came from the workshop of the brothers Negroli who were the most celebrated Italian armourers of their day. The design being admired was repeated with slight variations. The Madrid and Paris casques are the work of the Negroli themselves, but Mr. Baily's, inferior to them in its

¹ Victory more probably ; she holds a palm.

² Musée d'Artillerie Catalogue, H. 133.

execution, was probably the work of an apprentice or less skilful workman than the great Milanese master himself. Paolo Morigia¹ says that Filippo Negrolì made "celate e rotelle² miracolose" and that he had two brothers who worked with him, the "Fillipus et fratres" of the Madrid casque. The Paris helmet has been published in photography by Franck, the Madrid one by Laurent, both of Paris.

Mr. Baily's helmet is now in the collection of the author.

No. 87. Fig. 88.

Casque with three combs, and embossed with the Florentine fleur de lys. From the Brocas collection. Date about 1550.

The Executors of the late Mr. J. W. Baily.

This finely designed and ornamented helmet has at some time or other been wilfully damaged, an embossed grotesque head on the front part of it having been flattened down and a portion of the brim at the back having been broken off. Otherwise it is in fine preservation, all the parts in relief having their original gilding and the ground being a fine russet. In the armoury of the Kings of Naples, formerly in the Palazzo Reale and now at Capodimonte near Naples, are nineteen helmets all alike and of similar design to this one. Mr. Baily, Junr., says that another exists in Lord Londesborough's collection, but it is quite impossible to identify it in the feeble and miserably arranged catalogue published when that collection was exhibited at the Alexandra Palace and the Aquarium.³ It is possible Mr. Baily's recollection may refer to a similar helmet in the Meyrick collection which with the half suit of armour belonging to it is represented in the "Engraved Illustrations" of the Meyrick Collection.⁴ If the drawing of it there be correct the helmet although of the same design as Mr. Baily's was less graceful in form. The suit is there attributed to the body guard of Cosmo de Medicis, and the date 1568 assigned to it. The date appears rather late, but the attribution to the body guard of Cosmo seems very probable, as he reigned as Duke of Florence from 1537 to 1569 when he became Grand Duke of Tuscany, dying in 1574.

How so many of these beautiful helmets got into the royal armoury at Naples is not clear. Mr. Baily's example has passed into the author's collection.⁵

¹ Nobilita di Milano, 4to. Milan, 1595.

² That is casques and round shields.

³ The author does not remember seeing any such helmet in Lord Londesborough's collection.

⁴ Vol. i, plate xxxii, the letterpress states that there was a fleur de lys on the breastplate of the suit, but although the work on it is carefully drawn, no fleur de lys is apparent. Did the suit really belong to the helmet?

⁵ Since writing the above the author has had this helmet cleaned. With the varnish with which it was covered came

away a quantity of black paint, leaving the ground of the helmet a brilliant silvery steel, whilst the fleur-de-lys and scrolls are a russet brown, and the oval mirrors on the combs and the corded edges of these last are gilt. The effect of the three tints, bright steel, russet, and gold, is very charming. The piece has traces of having had a nasal and lobster tail affixed to it in the 17th century to convert it into a helmet, like fig. 95. Hence its mutilations. The black paint probably dated from the same period, when black armour was much worn.

No. 88. Fig. 89.

Casque with three combs. The cheek-pieces retain their original lining. Armourer's mark a pine and tilting helm. From the Meyrick collection.¹ Date about 1550.

Mr. W. Burges.

This is probably a helmet of German make, and the perfect forging of the three serrated combs is a work of very great skill. It would certainly puzzle a modern workman to form the crown piece of such a helmet out of one single piece of steel.

No. 89. Fig. 90.²

Casque with bright bands on a black ground.
German 1560 to 1580.

The Baron de Cosson.

This helmet which bears the Nuremburg mark belongs to one of those half suits with bright bands on a black ground, of which so many remain, and which Meyrick has identified with the Allecret of old writers.³ He, however, correctly observes that the "hallecret" was also the half suit of a light horseman,⁴ and it probably was applied to all those half suits with long tassets and open casques so much in vogue in the sixteenth century. After a tournament at the Chateau de Nozeroy in 1519 (o. s.) in a mock assault on "ung bastillon de guerre à quatre tours devant, à pont levy derriere," &c., "le Seigneur Prince d'Oranges accompaigne de ses compaignons, entrepreneurs, et de cinquante nobles hommes avec luy, bien armez d'alcrests, la dague au costel, et la pique au poing, se sont mis dans le dit bastillon."⁵

Black and white suits were made in vast quantities in Germany, and, as the varied shapes of their breastplates show, for a considerable period. Meyrick says that some at Vienna are dated 1535 whilst some are found which cannot be much earlier than 1600.

No. 90. Fig. 91.

Movable Mentonniere for a black and white casque.
Date about 1570.

Mr. R. Hillingford.

These pieces were strapped to the casque, or as in Fig. 93, were hooked on. They were no doubt the "buffe or chin piece" mentioned in different writings of the sixteenth and beginning of the seventeenth centuries. The reasons for this attribution have already been given. They were jointed so that the upper plate could be lowered without removing the buffe. Sometimes there were a number of plates in the buffe and each one had a spring to keep it in its place when up.

¹ "Engraved Illustrations," vol. i, Plate xxv.

² The small section near the figure represents one of the bright bands on the crown which, as will be seen, are slightly sunk.

³ "Critical Inquiry," vol. ii, pp. 206 and 207, and "Engraved Illustrations," vol. i, Plate xxv.

⁴ "Critical Inquiry," vol. ii, p. 226.

⁵ "Traicté des Tournois," Paris, 1878., p. 254.

No. 91. Fig. 92.

Casque, with pointed crown. Probably German.
Date 1560 to 1590. *The Baron de Cosson.*

Similar in construction to No. 89, this one is entirely polished. The figure will show all its differences in form.

No. 92. Fig. 93.

Moveable chin piece of an open Casque. Date 1560
to 1590. *The Baron de Cosson.*

The perforations are slits in this case instead of round holes as in Fig. 91. This buffe is entirely bright.

No. 93. Fig. 94.

Casque with hinged cheek pieces. Date 1560 to
1590. *Mr. W. Burges.*

The umbril moves on pivots in this helmet and overlaps the cheek pieces a little so that when down it keeps them closed at the top.

The summit of the helmet ends in a sort of pine-apple.

No. 94. Fig. 96.

Helmet of the kind known as "lobster tailed," ornamented with brass studs. Probably Polish. First half of the seventeenth century. *Mr. W. Burges.*

This head piece belongs to a gorget and coat covered with scales, described by Mr. Burges under the No. 50 in the catalogue of mail and which are ornamented with the same brass studs one of which is drawn half size near the helmet at B. The head piece is of good workmanship and has had a nasal like Fig. 95. This is probably the type of helmet to be worn by the new cavalry mentioned by Richelieu in a letter to the Cardinal de la Valette, and which he describes as "une bourgingnote couvrant les deux joues, avec une barre sur le nez."

The "lobster tailed" helmet so much in use for cavalry during the first half of the seventeenth century although certainly described as a burgonet at that time, and bearing very much resemblance to the type of casque with an umbril and cheek pieces known by that name in the sixteenth century, was probably not derived from it at all but came from Eastern Europe with regiments of horse levied in Poland or Hungary. Many varieties of it existed in those countries and are described in Russian works. The prototype of the lobster tailed helmet was the oriental head piece of the form shown in Figs. 113 and 116 and described under Nos. 148 and 149 and the intermediate forms leading from that type to the lobster tail of the Civil Wars will be found in the great work on Russian antiquities published by command of the Emperor at St. Petersburg in 1852, tome iii, part I of the atlas of plates.

No. 95. Fig. 95.

Helmet, lobster tailed, of the time of the Civil Wars. German.
Mr. W. Burges.

Many of these helmets have been sold in England of late years as English head pieces of the time of the Civil Wars, but as a French dealer recently obtained several hundred *exactly* of this type from the Arsenal at Munich together with several hundred morions like Fig. 109, it is probable that they are all German. The real English type will be seen in the next example. These German helmets all have six raised ridges radiating from the centre of the crown where there is a small ring. This was probably the helmet of the famed German Ritters, but it is very exactly described by Fr. Lod. Melzo in his "Regole Militari," &c., published at Antwerp in 1611, "I capitani degli archibugieri sogliono armarsi di petto e schierna a prova di archibugio, e di un morione leggero e basso *con quattro fili, con l'orrechie e con un ferro davanti, che guarda la faccia delle coltellate.*"

The ridges on the crown, the cheek pieces and the nasal are all described here. In the survey of the Tower in 1660 "Dutch horseman's head pieces, with *single* bars," are mentioned. The English form generally had triple bars.

No. 96. Fig. 97.

Helmet, black, with lobster tail. From the Brocas collection. English *Temp.* Charles I.

The Executors of the late Mr. J. W. Bailely.

This piece is of the same type as so many that are to be seen in old houses where armour of the time of the Civil Wars still remains. With breast and back plate it formed the mounted arquebuser's armour and without them was worn by the dragoons of the time of the Civil Wars. This one is now in the author's collection.

No. 97. Fig. 112.

Helmet known as a "spider helmet," said to have belonged to a regiment of horse formed by Henri Quatre.
Mr. W. Burges.

The above origin is attributed to one of these curious helmets in the Tower. At the Musée d'Artillerie a similar piece is described as an infantry helmet of the middle of the seventeenth century.¹

Its form would certainly appear to belong to a later reign than that of Henry IV. of France, but it would seem much more suited to a horseman who would often be in hand to hand encounters with the sword than to a foot soldier. The series of bars hanging from the skull of the helmet forming a very good defence against a sabre cut. When not in action the

¹ The same date is ascribed by the Comte de Belleval to a similar helmet in his own collection: "La Panoplie du XV^e au XVIII^e Siècle, Paris," 1873. page 161.

The Comte de Belleval's fine collection passed into the Emperor Napoleon's, and is now in the Musée d'Artillerie.

wearer could raise them and fit their ends under the circular plate seen at the top of the piece, which when pressed down held them in their place. On raising the plate again, the whole of the bars were released and fell round the wearer's head.

CHAPELS-DE-FER, MORIONS, AND CABASSETS.

No. 98. Fig. 98.

Chapel-de-fer. Date 1475 to 1500. *Mr. R. Hillingford.*

This helmet has unfortunately suffered much from rust and ill usage, part of the medial ridge being broken and flattened.

In form it is almost identical with the pikeman's helmet of the seventeenth century, Fig. 110, but the metal and workmanship of it prove it to belong to a much earlier date.

In the National Gallery is a picture of the death of St. Peter Martyr, ascribed to Giorgione, in which one of the soldiers wears a helmet exactly like Mr. Hillingford's, only it has a steel covered chin strap like Fig. 110. This picture was probably painted in the very first years of the sixteenth century. The two sets of small twin-holes round the head-piece under consideration show that the lining extended to the edge of the brim of the helmet. "On his hedde a Chapeau Montabin with a rich coronall the fold of the chapeau was lined with a crimsen satten," says Grafton.¹

The helmet only weighs 2lbs. 12½ozs. One of exactly the same form as Mr. Hillingford's, but much thicker and better preserved, and with a large separate chin piece or bavier bearing the same armourer's mark as the head piece, is in the Brussels collection. It has no small holes round its brim for securing a lining to the "fold of the chapeau."

No. 99. Fig. 99.

Chapel-de-fer, or Morion of early form. Armourer's mark a fleur de lys. From Rhodes. Date 1475 to 1500.

*The Museum of Artillery, Woolwich.*²

It is difficult to say by what term such a head-piece as this would have been described at the time it was worn. In the Woolwich Catalogue it is called a sallad, but its affinity with the recognised forms of sallad is slight. The workmanship of it is particularly good, the edges of the brim are boldly turned in, there is a slight ridge running from front to back of the crown, and it has had chin straps placed rather to the rear of the helmet which was worn slanting on the head. The rivets for them appear under those for the lining. The whole piece is remarkably long (15¼ inches) and narrow. Just such a head piece is seen on a portrait of Phillip the Fair at Brussels with a crown or "coronall" and the "fold" lined with red, in fact it quite illustrates Grafton's text.

¹ Henry VIII, ann. 5.

² Woolwich Catalogue, Class xvi, No. 202.

No. 100. Fig. 100.

Morion, Italian, with the arms of Bologna. Date 1530
to 1550. *The Baron de Cosson.*

Almost identical with this was a piece in the Meyrick collection with the arms of Lucca, which is described in the "Engraved Illustrations" as an "archer's sallade." Although the word sallad was late in the sixteenth century applied to almost any kind of helmet, this one certainly has much more analogy to the morion than the sallad. Two rivets near together rather towards the back of the helmet have their broad heads on the inside of the piece, showing that they secured chin-straps like those on Fig. 110.

No. 101. Fig. 101.

Morion, combed, covered with rich engraving, Italian.
Date about 1550. *Mr. W. Burges.*

The engraving is particularly good in design and the piece well preserved. The style of the heads and ornaments decidedly indicate an Italian origin.

No. 102. Fig. 102.

Morion covered with rich engraving, the comb remarkably high and the arabesques of bold design, Italian.
Date 1550 to 1570. *The Baron de Cosson.*

To forge such a helmet out of one single piece of steel shows most remarkable skill in the armourers who produced these pieces. The Italians were particularly celebrated for their manufacture. Brantôme says that the French "ne les vuidoient pas si bien et leur faisoient la crête par trop haute." The engraved morions gilt with "or moulu," which Strozzi got from Italy for his soldiers, cost 14 crowns each. Finding this too much he caused his morions to be sent from Milan, engraved but without gilding, and then gave them to a French gilder and they thus only cost him 8 or 9 crowns each. The same author tells that "à une revue de Monsieur" (afterwards Henri III) "il se trouva 10,000 morions gravez et dorez, et n'étoient pas si commun comme depuis." The engraving on the morion under consideration is particularly deep and bold in design.

No. 103. Fig. 103.

Morion, with comb. *Temp. Elizabeth.* *Mr. W. Burges.*

A plain soldier's morion. The brass washer of one of the rivets is drawn half size at A.

No. 104. Fig. 104.

Cabasset or peaked morion, richly engraved, probably Italian. Date 1555 to 1575. *The Baron de Cosson.*

It is probable that all the so-called peaked morions ought to be styled cabassets whether they have a flat brim or not, the term morion being reserved for what are usually called *combed* morions. 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. All the perfect peaked morions end at the top with a curious little spike drawn out towards the rear of the headpiece. The washer of one of the rivets of this one is drawn at c. The engraving although not so bold as that on Fig. 102 is somewhat in the same style.

No. 105. Fig. 106.

Cabasset, engraved. Date about 1560. *Mr. W. J. Bernhard Smith.*

This is similar in form to the last, only it is not entirely covered with engraving. It preserves its original plume holder. A rivet is given at n.

No. 106.

Cabasset or morion, engraved, Italian. Date about 1560. *The Executors of the late Mr. J. W. Baily*

Almost identical with Mr. Bernhard Smith's. This piece which is now in the author's collection was not photographed for engraving.

No. 107. Fig. 107.

Cabasset, engraved. Italian. Date 1560 to 1580. *The Hon. Society of the Middle Temple by Mr. C. Milward.*

This is a very finely engraved piece and was found with the helmet described under No. 70, Fig. 66, and a quantity of other armour in the Minstrel's Gallery of the Middle Temple Hall.¹ On one side of it is a representation of Mucius Scævola before Porsenna, he holds a big sword and is armed with helmet, lorica, and shield. Above, on a scroll, is written MVCIO. A dog is in the act of jumping into Porsenna's lap. On the reverse side is a female figure holding a glass in which her face is reflected. One of the beautiful gilt brass washers of the rivets is engraved half size at B.

¹ *Archæological Journal*, vol. xviii, p. 154.

No. 108. Fig. 105.

Cabasset or flat brimmed morion. Italian, with gilt bands richly engraved. Date 1560 to 1580.

The Baron de Cosson

On each engraved and gilt band is an oval medallion with a figure in it engraved with much spirit. One of the rivet washers is drawn at D. A second row of rivets close to the edge of the brim shows that the lining extended that far. These flat brimmed cabassets originally had chin straps. The piece is in fine preservation.

No. 109.

Cabasset, Italian, engraved. Date 1560 to 1580.

The Baron de Cosson.

Similar in shape to the last, but much inferior in execution ; this piece has not been illustrated, as it offered no feature of special importance.

No. 110.

Cabasset, Italian, engraved. Date 1560 to 1580.

Mr. H. Hippiusley.

In form similar to Fig. 107 but with the engraving in bands like Fig. 105; this helmet was not photographed as it had been repaired at its summit and offered no new features.

No. 111. Fig. 108.

Morion, with three corded ridges or combs. Flemish.
Date 1570 to 1590.

Mr. W. J. Bernhard Smith.

Mr. Bernhard Smith stated in the *Archaeological Journal*,¹ 1858, that this helmet had formed part of the collection exhibited a few years previously in Leicester Square together with another now in the Tower.

No. 112. Fig. 109.

Morion, with bright fleur-de-lys on black ground,
probably from Munich. Date about 1600.

Mr. W. Burges.

Morions like this one, of which a great number still exist, would seem to have belonged to the civic guard of Munich, or to regiments of pikemen having their head quarters in that place. The fact that several hundred were recently obtained from the arsenal at Munich by a French dealer, has already been mentioned in describing No. 95. The fleur-de-lys in this instance would not appear to have been heraldic, but an emblem of the Blessed Virgin, to whom the town guard was dedicated.

¹ Vol. xv, p. 166.

No. 113.

Morion, black, with bright fleur-de-lys. German.
Probably belonged to the Civic Guard of Munich.
Date, 1600 to 1610. *The Baron de Cosson.*

Being very similar to the last, this helmet has not been engraved. A considerable number of small varieties are found in these morions, scarcely any two being exactly alike.

Not so the lobster tail helmets from Munich (No. 95, fig. 95), which are almost all identical in form and make.

No. 114. Fig. 110.

Pikeman's helmet. English. Date about 1620. *Mr. W. Burges.*

An examination of Plate VIII will show the curious fact that the earliest helmet engraved in the plate of morions, fig. 98, and the latest, fig. 110, were identical in outline. But in the workmanship and material the difference was immense. The early one was delicately forged in one piece of thin hard steel. The late one was clumsily joined down the middle, heavy, and apparently of much coarser metal. Numerous half suits exist with these helmets, and old prints of the pikeman's drill, some of which have been reproduced by Grose in his "Military Antiquities," show that they were distinctively pikemen's suits.

No. 115. Fig. 111.

Pikeman's helmet and gorget, painted brown with gold stars. English. Date 1620 to 1630. *The Baron de Cosson.*

Same type as the preceding. Perhaps an officer's helmet. Some helmets of this type are prettily ribbed. A complete pikeman's suit and some varieties of helmet are represented in plate xxxix of Meyrick's "Engraved Illustrations."

HELMETS VARIOUS.

No. 116.

Siege Cap, middle of the seventeenth century. *Mr. W. Burges.*

This piece was imperfect, only the bason-shaped skull piece remaining, which was of very great weight and strength.

No. 117.

Helmet of massive steel with brass studs. For the use of stormers. From the armoury of the Tower of London With original lining. Date about 1700.

Mr. W. J. Bernhard Smith.

It was probably an error to describe this very heavy siege cap as being

of *steel*. Iron appeared to be the material it was made of and the skull piece was in two halves riveted together. A number of these helmets still exist in the Tower.

No. 118.

Privy cap of defence, constructed to fold up. It formed the framework of the coife of a French Judge, who feared assassination. Date, about the reign of Henri Quatre.

Mr. W. J. Bernhard Smith.

The following description of this piece, by Mr. Bernhard Smith, will be found in volume vii of the *Archæological Journal*, p. 197, "also a rare piece of armour, a *secretum* or steel frame used as a cap of fence, being very ingeniously fabricated and hinged together, so as to be carried in the pocket and on any sudden emergency placed in the crown of the cap or hat. Date sixteenth century. A similar *secrette* was formerly in the armoury at the Chateau de Rocherolles in Normandy." The engraving of this piece faces page 305 of the same volume.

Where Mr. Bernhard Smith got the story of the judge, which he wrote on the card which accompanied the piece at the exhibition, the author cannot say, but he feels sceptical about it, and prefers the account given in the *Archæological Journal* with the one exception of the date. Assassins do not usually attempt the lives of judges through the tops of their heads. This piece is a defence against a sabre cut only. Two specimens identical with this one exist in the Musée d'Artillerie in Paris. The description given of them in the catalogue is "Armature en fer, servant de calotte intérieure de chapeau. Règne de Louis XIV." The Uboldo collection at Milan also possessed an identical piece.

Now there is no question that in duels in the sixteenth century head pieces called *secrettes* were used. Brantôme relates that at Milan "ou tuait dans les duels beaucoup d'Italiens, bien qu'ils fussent armés de jaques de mailles, gantelets, et *segretta in testa*." Also that in one of these combats "ou choisit deux *secrettes* et deux rapières bien tranchantes."

An "ordonnance" of Francis I, dated 1534, orders that arquebusiers should wear "grands gorgerins de mailles et la *secrette*." Brantôme also says that Bayard and Sotomayor arranged to fight a sword and dagger duel, armed with "gorgerin et *secrette*." But the piece exhibited by Mr. Bernhard Smith being only a skeleton cap would have been quite useless in a duel, except it were fought with broadswords, and those weapons were not used in affairs of honour. The *secrette* was probably a thin skull cap, like No. 35, fig. 28, and the piece now under consideration may have been used by officers, when going into battle, to put inside the felt hat worn in the reigns of Louis XIII and XIV, or, perhaps, under the ordinary hat when going about at night in uncanny places.

No. 119.

Skull cap from Tangiers. Date end of the fifteenth century.

*The Museum of Artillery, Woolwich.*¹

There is no clue to the date of this very curious piece, which has been

¹ Woolwich Catalogue, cl. xvi, No. 17.

described and illustrated in the *Archaeological Journal*, vol. xxiv, p. 316. The most singular feature of it is the double cross engraved on it, this double cross being exactly like the one on the Union Jack. So unusual is this kind of ornament in Moorish work, that it is difficult to believe it to be of Moresque origin. There is a band of thin brass riveted with iron rivets round the outside of the base of the cap. The cap itself is almost hemispherical, and has none of the beautiful and delicate curvature found in the Italian specimen, No. 35, Fig. 28.

No. 120.

Helmet from the mural tablet of Colonel Kyrle in Walford Church, Herefordshire. Date seventeenth century.

The Rev. A. Stonhouse.

A very thin helmet, so thin that it might be supposed to be a funeral helmet; but if so, why should it have all the rivets for the straps to which the lining could be sewn? These would be needless in a helmet merely made to be hung in an achievement. In fact, their presence in a piece would seem almost a proof that it was intended to be worn. This helmet is ribbed, and almost exactly resembles those ribbed helmets worn by Louis XIII and Monsieur de Pluvinel in Plates 44 and 49 (3^{me} partie) of the work on horsemanship written by M. de Pluvinel (ed. of 1629). These two plates represent combats on horseback, in armour and with swords.

No. 121.

Helmet, from the mural tablet of Sir Edward Bullock in Faulkbourn Church, Essex. Sir E. Bullock died in 1644.

The Rev. F. Spurrell.

The fashion of this helmet was of the end of Elizabeth's reign or the beginning of that of James I. It was much damaged.

No. 122.

Helmet found under the ruined portion of Cromer Church, Norfolk. Middle of the seventeenth century.

The Rev. G. Cardew.

So corroded as to be of little interest. Appeared to date from the reign of James I.

No. 123.

Helmet roughly made. Date perhaps Charles II.

Mr. W. J. Belt.

A good helmet, spoilt to make it serve in the Guoco del Ponte at Pisa. Hundreds of helmets have had their vizors replaced by rough bars, and been otherwise mutilated to serve in those games, an account of

which will be found in Meyrick's "Critical Inquiry," vol. ii, p. 67. Mr. Weekes possesses the remains of a very fine armet of the fifteenth century, which had been treated in the same manner.

No. 124.

Pikeman's helmet. *Temp.* Charles I. *Mr. R. S. Ferguson.*

This helmet and the next were of the same type as Nos. 114 and 115, figs. 110 and 111, but so much corroded that they were not included in the chronological series. They came from Carlisle.

No. 125.

Pikeman's helmet. *Temp.* Charles I. *Mr. R. S. Ferguson.*

No. 126.

Part of an Elizabethan Cabasset, with very long
point at apex. *Mr. F. Weekes.*

A portion of one of those Italian helmets half cabasset and half casque of which unfortunately no complete specimen was exhibited. Such a helmet from Venice in its complete form (except that the cheek pieces seem wanting) is engraved in Grose's "Ancient Armour," plate 32, No. 3. One with cheek pieces at Geneva is engraved by Demmin, "Guide des Amateurs d'Armes," page 291, No. 124.

No, 127.

Face guard of a lobster tailed helmet. *Temp.* Charles II.
Mr. F. Weekes.

A helmet, with an almost identical nasal, is engraved by Grose, "Ancient Armour," plate 47, only, in Mr. Weekes's example there were two of the waved cross bars instead of one. More probably *temp.* Charles I.

No. 128.

Steel vizor. *Temp.* James II. *Mr. W. J. Bernhard Smith.*

Probably belonged to a helmet of the type of 65, only here the vizor was fixed to the umbril. Might date from the Civil Wars.

No. 129.

Mask for disguising prisoners. Spanish.
Captain A. Hutton.

All that can be said concerning the supposed use of this iron mask formed in the shape of a human face, is that it is just as probable as any other that might be put forward. No mode of attaching it in any way was apparent.

No. 130.

Lion-faced vizor of steel. From Madrid. Late fifteenth century. *Mr. W. J. Bernhard Smith*

A finely repoussé piece of ironwork. But if armour at all it seemed rather to be part of a shoulder guard in the style of those on the so called "armure aux lions," in the Musée d'Artillerie.¹ It was too thin for a vizor, which until the seventeenth century was always one of the thickest parts of the helmet. Might it not have belonged to some ornamental ironwork of the sixteenth century?

No. 131.

Heaume. Date? *Mr. W. J. Bernhard Smith.*

A very curious piece, certainly not a *modern* forgery, and yet never intended to be worn as a defence, as it was joined right down the middle of the front in a very rough way and was exceedingly thin. Probably a real specimen of the funeral helmet, but of what date? In form it exactly resembled the helm of the end of the fourteenth century.

Mr. Bernhard Smith described this piece in the *Archæological Journal*, vol. xvi, page 182.

No. 132. Fig. 71.

Armet with comb and plated with scales of solid iron. Without ocularia. From Florence. Early sixteenth century. *Mr. W. J. Bernhard Smith.*

An account of this remarkably heavy piece will be found in the *Archæological Journal*, vol. vii, page 197. Mr. Bernhard Smith was of opinion it might have been used as an instrument of torture, but the author much suspects that it was made for some monumental trophy of arms in the classic taste of the end of the renaissance in Italy, either for an entrance gate or perhaps to be carried in some pageant or ceremony; he does not believe it was ever meant to be put on a human head. It is difficult in any way to explain the use of the round holes (three on each side), which will be seen in fig. 71. The scales are all riveted through on to the iron body of the helmet. Mr. Bernhard Smith related that a former possessor of this piece had exhibited it as the helmet of a blind knight!

FORGERIES.

No. 133.

Flat topped helm, stated to have been found in Northumberland with other fragments of harness of the Transition period; much corroded. Thirteenth century. *Sir Noel Paton*

This was certainly the ablest forgery exhibited, in fact the only really

¹ Engraved in Paul Lacroix's book on the "Arts of the Middle Ages."

clever forgery of them all. Its form was good, nor was there anything in its construction absolutely incompatible with its authenticity. It was condemned by its metal, its surface, and its rust. There was a bright yellow colour and general appearance about the rust, which suggested some chemical process rather than the action of time. The inside surface flaked off and had a burnt scaly look. Some soft yellow earth or sand appeared to have been rubbed into the crevices. If compared with any of the thousands of fragments of iron work which have come down to us from very early times, the difference was at once apparent between this modern powdery rust and that oxide produced by the combined action of time and either air, earth, or water.

The author believes there are other forgeries in existence of helmets of a similar type.

No. 134.

Flat topped helm with hinged ventail, from Long Wittenham Church, Berks. Much corroded. Thirteenth century.

Sir Noel Paton.

On the 25th September, 1880, Mr. W. J. Bernhard Smith wrote as follows to Mr. Albert Hartshorne—"I have received a letter from Mr. Clutterbuck, Vicar of Long Wittenham, about Sir Noel Paton's helmet. As I expected, he says that nothing like it has been in his church for fifty years, so that genuine or not, its history is pretty evidently a lie with a circumstance."

This helmet was a most impudent forgery, and it would seem from an observation of many of the numerous forgeries that have appeared in this country during the last thirty years, that as a rule, the more impudent the forgery, the more circumstantial was the story with which it made its appearance.

The different portions of this particular piece exhibited totally different surfaces and amounts of corrosion. The cylindrical or tubular part was deeply corroded, but with a blotchy, burnt surface, which strongly suggested that it had been made of a piece of worn out stove pipe. The top or crown piece was totally different in surface from the tubular part, being very little corroded, whilst *all* the rivets in the piece were *quite uncorroded*. Explain who can how the rivets happened to escape the action of time, or whatever other cause had made so deep an impression on the body of the helmet.

Again, in the centre of the top piece was a cross inclosed in a circular piece of metal, the edges of which were as smooth and new looking as if just made. The ventail or hinged vizor had a different surface and colour from either the crown or the cylinder of the helmet. It was perforated on the right side with numerous holes, punched from the inside, and the burrs round the holes had been filed off on the outside, leaving an *almost bright* ring round the holes. This ventail was fixed to the helmet by a common ironmonger's hinge of the nineteenth century, and the arrangement for fastening the visor was quite unpractical and could not have worked. The outer surface of the whole seemed to have been coated with brown oil or varnish, whilst the rust on the inside was soft and modern looking.

No. 135.

Helmet of the early part of the fourteenth century. The crown of it is of conical form, with a *croix-fleurie* on the top. The visor is hinged on the left side, and closes with a spring on the right; it is pierced with numerous small holes for air. The ocularium is a narrow horizontal slit above the visor. The helmet is very much corroded, but weighs at present 9·6 lbs. *This very rare specimen was acquired by purchase March, 1866.*
The Museum of Artillery, Woolwich.

The above description is quoted verbatim from the official catalogue of 1874.¹ A further description of this helmet, accompanied by an engraving of the piece will be found in the *Archæological Journal*, vol. xxiv, p. 315, but a more glaring forgery the author has never met with. It is simply made of sheet iron, and the corrosion, which is considerable, is of the most transparently modern kind. It is unpractical in all its details, and the most marked feature about all these English forgeries of early helms is their complete inapplicability to the purposes for which they would have been intended, whilst the more genuine specimens of the armourer's art are studied, the more will it be found that the *use* for which the piece was intended was never lost sight of for a moment by the craftsman who formed it, every curve having its *raison d'être*, and the thickness of each part of the piece being regulated by its probable exposure to an enemy's weapon. It is unnecessary to say that in the sheet iron example before us nothing of the kind was to be found. The edges of the ocularium, which in all real helmets are strong and turned outwards, were here flat and weak. The form of the opening behind the visor was quite meaningless, being copied from the opening left for the *whole* face in helmets which have *no* slit for the sight: that is to say that when the visor was closed the wearer seemed intended to look out of the slit, and when open it would have been much simpler for him to have looked out of the big opening which had a double arch as if for the eyes. It was really a helmet with a double ocularium!

The bottom edge of the helm was straight all round, nor was any means of fixing it either before or behind traceable. This bottom edge not being rolled or turned in,² would have been singularly cutting and unpleasant as the cumbrous unfixed helm wobbled about its wearer's head.

¹ Class xvi, No. 19. The italics are in the catalogue and not the present author's, but in justice to the authorities of the Woolwich Museum of Artillery, it must be stated that it was at the author's special request that the helm now described was sent for exhibition. One of the principal objects Mr. Burges had in view in promoting the idea of an exhibition was to prove how vast a number of forgeries had been current in this country for years past, and have found

their way even into the best collections. On finding what appeared a flagrant instance in a museum like that at Woolwich, the author at once applied for it, so as to be able to satisfy himself that his suspicions of the piece were not unfounded.

² In genuine helms, the lower edges are not turned in except when the helm was *screwed* or bolted to the breast, and back plates and the sharp edges could consequently do no harm.

No. 136.

Heaume of Sir John de Berkeley, who died in 1346, or of his son who died in 1374.

Along with it is the crest of the Berkeleys, a clumsy piece of work—probably of the seventeenth century, which surmounted the heaume where it stood in Wymondham Church, Leicestershire.

A similar crest surmounts the heaume under the head of the effigy of Sir Thomas de Berkeley, father of Sir John, in Wymondham Church, figured by Gough in his "Sepulchral Monuments."

The ventacular perforations in the *mezail* assume the form of a *cross-patée*, one of the charges of the Berkeley coat armorial. Fourteenth century.

Sir Noel Paton.

Before this helm passed into the collection of Sir Noel Paton it was seen by the author in a quarter not calculated to inspire unlimited confidence in its authenticity, and it has all the defects common to the forgeries exhibited. In form and detail it appeared to be a copy of the genuine example from Hereford Cathedral, also in Sir Noel Paton's collection,¹ but its metal was common lustreless sheet iron instead of the intensely hard silvery steel of the original. The peculiar markings left by the rollers on the surface of sheet iron were distinctly traceable, the metal never having been properly polished and remains of the black oxide appearing in specks all over it; these roller marks were especially clear at the back, whilst the front part showed an attempt at corrosion. This helmet also was weak where it should have been strongest, namely round the slits for the eyes. In the Pembridge and Black Prince's helmets, especially in the latter, the edge of the metal which in this part is particularly thick, is turned boldly out round these apertures, thus protecting them from a glancing thrust; but in the forgery the metal there faded to a thin weak edge, which a vigorous blow would have driven in like paper. All the "ventacular perforations in the *mezail*," or breathing holes, were punched *outwards* and the burrs filed off, leaving a bright and uncorroded ring round each hole.

An examination of the holes in the original shows them to have been made in quite a different fashion. Punching may have been the first part of the process, but if so no trace of the punching is now visible, the whole plate having been hammered perfectly flat after the holes were made and each hole being slightly countersunk on the outer side.

The gilt wooden crest exhibited with the spurious helmet appeared ancient, possibly of the seventeenth century, and most probably suggested the whole helm and its very circumstantial history to the mind of its maker.

¹ Described under No. 75, figs. 72 and 73.

No. 137.

Helm of Sir Robert Tresilian, hanged at Tyburn 1389,
from Tremandart Manor, Duloe, Cornwall. *The Rev. C. Bicknell.*

No. 138.

Helm of Sir William Osmunderlowe, Sheriff of Cumberland, from Langrigg Church, *temp.* Henry IV and V.
The Rev. C. Bicknell.

No. 139.

Helm of Sir John Drayton, from Dorchester, Oxon.
The Rev. C. Bicknell.

No. 140.

Helm of the fourteenth century. *The Rev. C. Bicknell.*

The above four helmets may all be noticed together, as they evidently all came from the same source. They exhibited most conspicuously all the defects already mentioned in describing spurious examples of the armourer's art. The rolling marks and the file marks were here left in their full perfection, and the rust inside was of the most transparent kind. They were too light for helms and too big for helmets. Their lower edges would have been strangely cutting and unpleasant to their wearers, whilst to see at all out of two of them was almost impracticable. The rivets placed here and there, were for the most part meaningless, and in two of the helms there was no provision at all for fixing in a lining.

The more closely we examine all real armour of the fourteenth and fifteenth century, the more admirably does it seem fitted for its use, whilst these clumsy forgeries are one and all ugly and unpractical.

No. 141.

Funeral helmet, late seventeenth century. *The Rev. W. Dyke.*

This was a modern French imitation, made either for the theatre or for a modern trophy of arms, and was probably never intended to be passed off as ancient.

COPIES.

No. 142.

Model (electrotype) of the heaume of the Black Prince
in Canterbury Cathedral. *Mr. W. Huyshe.*

A comparison of this model with the helm of Sir Richard Pembridge
(No. 75), to which it was quite similar in form, was very instructive.

No. 143.

Models of the cap of estate and crest of the Black
Prince in Canterbury Cathedral. *Mr. W. Huyshe.*

The cap was modelled from the original, the crest from the one
beneath the head of the effigy.

No. 144.

Cast of the heaume purchased for the funeral pageant
of King Henry V in Westminster Abbey. Early
fifteenth century. *Mr. W. Huyshe.*

Although the original of this cast is perhaps the helmet which it is
recorded was purchased of Thomas Daunt with a crest for thirty-three
shillings and four pence for the King's funeral in 1422,¹ yet it is un-
questionably a real tilting helm of the period, and the cast of it afforded
an interesting comparison with two helms from Cobham Church of quite
the same type. (Nos. 76 and 77.)

No. 145.

Copy in cast iron of a sallad in the Royal Armoury at
Madrid, attributed to Boabdil-el-Chico, the last Moorish
King of Granada. End of the fifteenth century.

The Baron de Cosson.

The original of this piece is one of two very beautiful sallads attributed
to Boabdil in the Armeria Real. This one is of German fashion, but
may be of Italian make, as the honey-suckle ornament round its base
recalls the ornamental border round the Italian sallad No. 19, and would
seem to have belonged to the helmet before it was put into the hands of

¹ Rymer's "Foedera," vol. x, p. 256.

the Moorish workman who executed the beautiful Moresque pattern with which it is covered. The whole of this engraving is thickly plated with silver. The other sallad of Boabdil is of Italian form, and likewise covered with beautiful Moorish engraving and silvering. The old inventories of the Armeria record that this last one once had a pomegranate of gold at its summit, and it would seem to have been enriched with precious stones. There can be little doubt that the ornamentation on both these pieces was executed at Granada, whilst the helmets themselves were of foreign make and fashion.

C. A. DE COSSON.

NOTE.

As there are several editions of some of the works quoted in the foregoing pages, it may be of use to mention those to which they refer.

Meyrick, "Critical Inquiry," 3 vols., 1842. Meyrick, "Engraved Illustrations," 2 vols., 1830. Olivier de la Marche, "Memoires," 1 vol., small 4to, Bruxelles, 1616.

It will also interest the reader to know that almost all the helmets described as belonging to Mr. W. Burges are now in the British Museum.

Eastern Helmets.

INTRODUCTION.

With regard to this subject the student will find an excellent book in the "Illustrated Handbook of Indian Arms," by the Hon. Wilbraham Egerton, published by order of the Secretary of State for India, in 1880, and sold at the South Kensington Museum at a nominal price. It was published as a classified and descriptive catalogue of the arms exhibited at the India Museum.

Since this publication was issued the India Museum has been handed over to the authorities at South Kensington, who have thought fit to rearrange it, so that the numbers in Mr. Egerton's book are perfectly useless. It is, therefore, to be hoped that a new edition may be forthcoming with the correct and actual numbering, whereby the work will be made twice as useful as it is present.

Mr. Egerton first gives a sketch of the military history of India and describes the various means by which Indian arms and armour are decorated, and finally proceeds to catalogue ethnologically the contents of the Museum. These he divides into twelve groups, the catalogue of each group being prefaced by a short description and accompanied by illustrations.

With regard to the helmets, and even the armour, the Persians appear to have furnished the prevailing type, viz., an ovoid or hemispherical skull cap, with spike, plume holder and nasal. Attached to the skull cap is a camail of unriveted mail, more or less vandyked at the bottom.

Occasionally the form varies very strangely, as we see in the Mahratta helmet, marked fig. 27, p. 119. Some years ago Mr. Wareham¹ had for sale an iron hat of the usual chimney-pot shape covered over with the ordinary surface damascening in gold, and Mr. Valentine,¹ one in the form of an exaggerated Glengarry cap; both of these being evidently copied from textile originals.

Mr. Egerton remarks that few or any of the Indian weapons we possess are older than the time of the Mogul Invasion or the beginning of the sixteenth century, and the same presumably holds good with regard to the armour.

An inspection of the collection at South Kensington is sufficient to show how almost all the industrial arts have been pressed into the service of the armourer, and to give us some idea of what we possessed in the Middle Ages. Such was the bascinet mentioned by Froissart as belonging to the King of Castille at the Battle of Aljubarota, and which, we are told, was worth 20,000 francs of that period.²

It is much to be hoped that some day the India Department of the South Kensington Museum may receive the Oriental arms now in the

¹ Well-known dealers in works of art.
VOL XXXVII.

² Say £12,800.

Tower and in the British Museum ; for nothing causes more trouble to a student than to have the national collections divided ; all that could then be wanted would be explanatory labels and an enlarged edition of Mr. Egerton's excellent work. Thus, in the Tower, there are several specimens of Saracenic helmets and mail, to say nothing of the Tong suit for man and horse, which used to be known in our early days as the Norman Crusader. A comparison of these with other ancient Asiatic armour, which might be given or acquired, would perhaps help us to solve the mystery of the so-called kettlelid suits.

But, alas! the Asiatic armour in the Tower is now not even accessible, it has been put away to make room for sundry rifles ; very useful, no doubt, but which surely could have been housed without hiding part of a national collection.

A collection ought also to be made of Japanese armour, as the fashion of wearing it is going out in that country, and the manufacture, consisting of thin laminae of iron covered with lacquer and bound with laces, is not calculated to sustain neglect like a good sound Elizabethan or Carolean pikeman's suit.

Turkish Helmets.

No. 146. Fig. 114.

Conical Helmet with nasal, bearing the mark of
the armoury at Constantinople. *Mr. W. J. Bernhard Smith.*

This is one of the helmets which are supposed to have formed part of the kettlelid armour, and to have been imported at the same time.

This specimen has not the elongated apex to the same extent as the one which follows (Fig. 116), but on the knob at the top are two holes opposite one another, evidently for the purpose of fitting a ring, as in the Tartar helmet (Fig. 119). The plume-holder has a modern look, and the same may be said of the reinforcing piece to which the nasal slot is attached. Round the bottom edge is a series of small holes about three-quarters of an inch apart. As there are no traces of wear in them they could not have had the rings of a camail inserted, but it is quite possible that they may have received the vertvelles for the camail; as in the Eastern armour these staples are much slighter than in Western examples. After all they may have been used to rivet a strip of leather, to which the lining was attached.

No. 147. Fig. 115.

Saracenic Helmet of the time of the taking of Con-
stantinople, with the mark of the Constantinople
armoury. *Mr. W. Burges.*

This is another example of the same type as the preceding, but it is of a more elegant shape, the apex being a great deal higher. (There is, however, a third helmet in the Tower collection, the point of which is still more elevated). This helmet, which is one foot two inches in height, has been forged in one piece like the bascinets of the fourteenth century, but there is a distinct trace of welding about four inches below the top of the spike. There is a very extensive repair on the sinister side towards the back which looks very modern. The nasal, like that of Mr. Bernhard Smith's example, wants its lower extremity, and about half-way up, on the sinister side, is a small hook which may probably have been used to hold up the camail. About half-an-inch above the lower edge are a series of holes from three to four inches apart; these were for the wire vertvelles or staples, through which a cord ran to secure the camail; one of them still remains. Lower down are another series of holes in which some of the rivets remain; these may have been the means of securing a band of leather upon which to fasten the lining. On the sinister side are four holes forming a square about an inch apart, perhaps for the attachment of a plume-holder; and on the dexter side two holes about one-and-a-half inch apart, perhaps for the same purpose.

Since the exhibition took place in New Burlington street some other Turkish helmets have been offered for sale in London and along with

them some of the camails, which were secured by wire vertvelles as in the present instance.

These camails were circular in plan, coming right up to the eyes; but in this case there were two arches in the helmet, on either side of the nasal, for the purpose of vision. The depth of the camail was only about six or seven inches, and the mark of the Constantinople armoury, being stamped upon thin copper, was worked into the rings.

No. 148. Fig. 113.

Helmet from Constantinople, bearing the armoury mark. It seems to have been partially restored. Fourteenth century (early). *Mr. W. J. Bernhard Smith.*

This is a very curious puzzle. The solution would appear to be that the head-piece itself has originally been a bascinet of the fourteenth century (indeed, the visor holes can yet be traced). In later times it was cut and adapted in Hungary or Poland to the prevailing fashion, perhaps of the sixteenth century; and, finally, being captured by the Turks, preserved in the armoury as a trophy.

The principal points are the compound cheek pieces pierced with small holes for the convenience of hearing, and the suspension of the neck piece by means of three small chains. There is a nasal with the lower extremity simply turned up and a single plume-holder on the sinister side.

There are some very peculiar rivets on the outer edge of the peak, which also occur again on Figs. 115 and 116, the top of the rivet being shaped with three blows of the hammer.

No. 149. Fig. 116.

Helmet with nasal and cheek pieces. Probably Polish or Hungarian. Date uncertain.

Executors of the late Mr. J. H. Bailey.¹

In this example we have the same characteristics as in the preceding helmet, but the head piece is here original and not converted out of a bascinet. We find the same large cheek pieces only in single plates, not built up. The same projection round the indentation for the eye, and the same way of suspending the neck pieces, in this instance with two chains and a double hinge.

The top ends in a ball, surmounted with a perforated piece of metal for the purpose of attaching some ornament, as in the Tartar helmets, Figs. 119 and 120, and Mr. Bernhard Smith's Saracenic helmet, Fig. 114.

No. 150. Fig. 120.

Tartar Helmet with chain camail. The iron part seems to have been much prized, as it has been very curiously mended and mounted with silver partially gilt.

Mr. W. Burges.

The basis of this helmet is a very old iron head piece of a conical shape, not unlike those shown as being worn by the Normans in the Bayeux Tapestry. Upon it is very rudely chased an incised reticulated

¹ Now in the collection of the Baron de Cossou.

pattern, such as we see in Late Decorated windows; each division contains a flower and leaves roughly executed. This old head piece has been mended by iron plates placed beneath it and secured by silver rivets. A border of iron runs round the bottom inside; outside is a similar band, but of silver, about two inches deep and turned in under the interior iron border. It is covered with a Tartar pattern gilded, between two small borders of niello-work, but the lower edge is pierced with holes for the rings of the camail; these holes are much worn at the bottom which is a very certain test of the purpose of such holes when the camail has been removed.

At the cardinal points of the Tartar engraving are four irregular circles of silver with niello inscriptions. The top part of the helmet has a similar band of silver with the Tartar ornament (gilded) between two small borders of niello. On the apex is a knob on which works an ornamental ring, and to the latter is attached a double piece of red cloth six inches long edged with silver lace.

The camail, which is one foot two inches long, ends quite straight without any of the points we see in Persian and Indian work.

The rings resemble those of the coat of mail bought with the helmet, and are riveted with the pyramidal rivet. There are two small hooks on the front edges about three inches from the bottom.

No. 151. Fig. 119.

Small Tartar Helmet with camail.

Mr. W. Burges.

This is simply a skull cap (six inches diameter and one-and-a-half inch deep), made of iron and plated outside with silver, with engraving, and an inscription. At the top is an apex of silver, gilt and engraved; this finishes like the large helmet with a button and ring, the latter having a double cloth ornament about three inches long. In this case half is covered with cloth of silver and the other with red leather, the whole being lined with green silk. The camail is exactly like that attached to the other helmet, but has the curious addition of sundry rings hanging freely, so that a cord could be put through them. The line of the cord would run round the back of the head and descend to about the mouth.

With these two helmets and the coat of mail were bought two vambraces of iron with mountings of silver, engraved with the same sort of Tartar ornament as we see in the helmets. The iron is engraved with an ornamental Arabic inscription. The strips of leather for fastening on these vambraces, the buckles, &c., are all in a good state of preservation.

It would appear that we have here the remains of an ancient suit of armour in the shape of the helmet and vambraces, which at some later period have been carefully repaired and made serviceable with silver mountings and new mail. The whole is so perfect that it could hardly have undergone any considerable wear. It was purchased from the late Mr. Valentine.¹

¹ Dr. Rieu has very kindly looked over the inscriptions on these two helmets. The small one bears the date of 1161 (of the Hegira). The four inscriptions of the larger helmet are:—1 (on front), Sahib (the owner) Arslan Beg Beg son of Shoonak

Beg; 2 (behind), Nooli (Noah) Beg made it—1169 (of the Hegira); 4, the names of the seven sleepers of Ephesus, and that of their dog; 5, a text from the Kur'an. These helmets would, therefore, be about 140 years old.

Indian and Persian Helmets.

No. 152. Fig. 117.

Hood of Mail. Indian.

Mr. W. Burges.

A modern work, probably Sikh, consisting of a thin circular crown piece three inches in diameter, to which is attached a hood of small unriveted rings, made of very thin wire. The hood is semé with lozenges executed in brass wire, and is finished with the usual vandykes, viz., two at the back and one on either side. The crown has a beaten up star of eight points, and a hole in the middle to attach a spike or plume-holder.

The holes at the edge of the crown piece, through which the rings of the mail pass, are hardly worn at all, another proof of recent manufacture.

No. 153. Fig. 118.

Hood of Mail. Oriental.

Mr. W. Burges.

This also consists of a hood of mail attached to a skull cap of iron, but here all the conditions are altered. In the first place the skull cap is tolerably thick and the diameter much larger—about seven inches; in the centre is a hole for the plume-holder or spike. The holes on the circumference for the attachment of the hood are much worn and out of shape. The hood itself is comparatively short and ends quite squarely without vandykes; the rings being three-eighths in diameter, of a flattish section, and with the pyramidal rivets.

This hood belongs to the coat of mail described in No. 25, and has very much the appearance of an early thirteenth century equipment. It is, however, in all probability of Eastern origin, but by no means modern.

No. 154. Fig. 125.

Early Indian Helmet of peculiar steel, enriched with ornaments in relief.

Mr. W. Burges.

This helmet, which has a very ancient appearance, is remarkable for its great diameter (about nine inches). It is of a stilted semi-circular section and made out of a very silvery-looking steel. The various bands of ornament have been chiselled out of the body of the work. At the lower edge is a row of holes very nearly three-quarters of an inch apart. These were probably for the lining, as they do not exhibit any signs of wear, which would have been the case had a mail hood been attached. Immediately above these holes is a bead and reel projecting moulding riveted on, and above this occurs the first band of ornament; then comes a plain space and another band of ornament, which is again repeated. The apex is also worked in a very excellent manner. The whole finishes with a knob divided into compartments like an orange.

When first obtained this helmet was partially covered by a vitrified substance as if it had been in some fire. Altogether it is very beautifully executed and a fine specimen of iron work.

No. 155.

Indian Helmet with velvet check and neck pieces.

Mr. W. Burges.

This is a plain iron helmet with no ornament beyond a brass crest of acorns and oak leaves round the lower edge. This crest is stamped out of thin metal and has very much the look of the European brass work of the end of the last century.

On the top there is a reinforcing plate of about three inches diameter with a scalloped edge, and above this a small quadrangular spike. There are two crest holders and a nasal piece, the latter working with a spring behind. The two extremities of the nasal, which expand considerably, are fixed on to the shank. At the edge of the lower rim is a series of holes, to which is affixed the lining, which is wadded in the usual way, the whole edge being covered with a silver lace.

There is a neck-piece and two ear-pieces of red velvet lined with striped silk, and outside these latter two iron chains covered with red velvet, which terminate in ribands for the purpose of fastening them under the chin. Above these, chains are attached to iron split rings, which again work in iron fastenings riveted to the helmet.

No. 156.

Persian Helmet with camail.

Mr. H. Hippiisley.

This follows the usual shape of Persian helmets. There is a damascened band round the lower edge, but above there is a raised pattern worked out of the metal itself. At the top is the usual four-sided spike, and below a nasal and two plume-holders. The hood is composed of small unriveted links, and may, probably, be more modern than the helmet itself.

No. 157. Fig. 127.

Helmet composed of laminæ and mail. Indian.
Date uncertain. *The Executors of the late Mr. J. W. Baily.*¹

There is a helmet very similar to this in the India Museum at South Kensington, which is thus described in Mr. Egerton's work (p. 125):—

“Helmet ‘top’ composed of plate and chain mail, and armed with a large crescent-shaped nose guard of steel sharpened on its lower edge. Taken at the siege of Srirangapatam. Worn by the Mogul heavy cavalry in the time of Hyder Ali Khan. Tippoo Sahib retained only 1000 men thus armed as a body guard.”

There is another helmet of this description at the Rotunda at Woolwich, and two are drawn in Skelton's work on the Meyrick collection. They all differ in minor particulars, and principally in the size of the lamina. Thus, one of those in the Meyrick collection has an entire cap

¹ Now in the collection of the Baron de Cosson.

of steel, all below being jazerant; that in the India Museum has entire divisions of plate connected by mail. Mr. Baily's example has the tops of the divisions in plate and the rest in laminae. Fig. 128, on the contrary, is entirely composed of laminae, and is remarkable as retaining its original lining. Sometimes the neck pieces are very long and sometimes very short. Some examples have enormous nasal pieces, while others have none. It may be observed that these sort of helmets are generally in bad condition on account of the multiplicity of their parts and the thinness of the laminae.

No. 158. Fig. 128.

Indian Helmet, composed of small plates and chain mail, with the original lining. *Mr. W. Burges.*

The same remarks refer to this example, but there are three points of interest.

The first one consists in the longitudinal splints which go round the edge, laminae being rarely used in this position.

The second is the junctions of the mail rings, which are not flattened out and riveted, but simply spliced, the ends being brought over one another as in the Assyrian mail in the British Museum.

The third point is the lining, which is composed of several thicknesses of old coarse linen quilted down, as in the French jaques of the fifteenth century. Another instance of the processes of the Middle Ages surviving in the East.

There is no nasal to this helmet, and there are no traces of the attachments of the slot in which it would work.

No. 159.

Indian Helmet, inlaid with gold, and camail of brass and steel rings. *Mr. W. Burges.*

The section is a semicircle; there is a plume holder at the apex, and two others at the usual place; the nasal has disappeared, but the rivet holes of the attachment still remain. The band of surface damascening is very carefully and beautifully done, the pattern consisting of six lobed roses with leaves between. There is no lining, and the camail is now simply attached by string to a series of holes in the bottom edge. The camail is in very small iron unriveted links about one-eighth of an inch diameter, upon it is a lozenge pattern in similar brass links. The damascening resembles that on a helmet in the India Museum which comes from Lahore. The helmet under consideration forms part of a complete suit of armour consisting of helmet, coat of mail (No. 26), breastplate (the four mirrors), vambraces and shield, all ornamented with similar damascening, except the coat of mail.

No. 160. Fig. 121.

Helmet, elaborately ornamented, with camail. *Mr. J. Latham.*
Persian. Seventeenth century.

This, in the general manufacture, is very like the helmet belonging to Mr. Tucker, the great difference being that it is surmounted by a bird's

head, neck and wings as a crest; the eye of the bird is in gold and the feathers are damascened. Over the forehead is a circle with a human face embossed out of it. There is a band at the bottom, and the rest of the surface is occupied by figures of horsemen, jinn, &c., rather coarsely engraved by acid.

The camail is of the usual vandyked shape, the rings being alternately of the Theta form and circular; these latter have rivets of copper.

No. 161. Fig. 122.

Helmet with double spike, inlaid with silver and engraved by acid. Persian. Seventeenth century.

Mr. S. I. Tucker, Rouge Croix.

This is a very singular design; the surface is covered with a tracery pattern containing in its compartments warriors and animals engraved by acid. The lines of the tracery have central fillets damascened in silver. The figures are not particularly well drawn. Instead of the usual four-sided spike at the apex there are a couple of small scythe-shaped blades. On the front compartment of the tracery a man's features are beaten up; there are two plume holders, but no nasal. The date is comparatively modern.

No. 162. Fig. 123.

Helmet, Persian, inlaid with gold, with figures engraved by acid.

Mr. W. Burges.

This presents the usual ovoid shape of the modern Persian helmets, and possesses the common four-sided spike at the apex, two plume holders, and the usual nasal. The camail is attached by little holes in the lower edge, and consists of the ordinary unriveted small mail with a pattern in brass; it is very strongly vandyked. It has evidently been made in two pieces and joined at the back. It is said to have been bought in the Arms bazaar at Constantinople.

So far there is nothing to distinguish it from any other modern Persian work, but it is curious as having its whole surface engraved with men, animals and horses by means of acid. These figures are contained in the tracery which divides the surface into compartments. The centre line of the tracery contains a gold line of surface damascening. These animals are very spirited, and decidedly better drawn than the modern work we generally see.

No. 163.

Helmet, figured with arabesques in gold, and with camail of brass and steel rings. Persian. Eighteenth century.

Mr. A. Pfeiffer.

This is the ordinary Persian helmet, and is probably not very old. It has the nasal, the two plume holders, and the spike at the apex, also the vandyked camail of iron, with a pattern on it in brass. The space between the front and back vandykes, instead of being straight, is again subdivided into other and smaller vandykes; round the bottom of the head piece is a band of ornament chiseled out of the solid iron; the rest is covered with gold damascening.

No. 164. Fig. 124.

Persian Helmet, inlaid with gold. Modern. *Mr. W. Burges.*

This belongs to one of the modern suits of Persian armour, of which so many appeared in the market some few years ago. There were all sorts of stories current about them, one of them being that they had been plundered from the armoury of the Shah during some commotion; more probably they were made in Ispahan by a family of armourers for the purpose of exportation.

This particular helmet is ovoid in form, and has a square spike on the top, three crest holders, a nasal, and a camail of small unriveted mail with a brass pattern. There is a good deal of damascening all over the helmet, but of rather a coarse description. The gold is not inlaid, but is fixed on to a roughened surface by means of burnishing.

The lining consists of linen and twill with cotton work between, the whole quilted through. This lining is simply glued to the inside of the helmet, one proof among others that it has not been intended for actual use.

Japanese Helmets.

No. 165. Fig. 129.

Old Japanese Helmet. Seventeenth century.

Captain Oldfield.

The first place is due to the helmet exhibited by Captain Oldfield, as it was by far the most perfect specimen in the collection. It is constructed upon the same principle as all the rest, viz., built up of various plates of iron riveted together. The jazarine camail and neck piece are made of thin splints of iron covered with lacquer and tied together with silk laces, instead of connected with rings as in India. The only part beaten out is the visor, which possesses a moustache of horsehair. The body of the helmet is covered with a rich brown varnish, and the accessories with black lacquer; some of the ornaments are silvered and others gilt. Inside two strips of leather cross one another, as we sometimes find in the sixteenth and seventeenth century European helmets, to prevent the iron from pressing on the head. These straps are attached to the four buttons whereby the camail is fastened to the helmet.

This example possesses its crest in the shape of a half moon, and is remarkable for the stick at the apex, to which is attached two cords finishing in tassels, and lower down a large tassel made of strips of paper.

No. 166. Fig. 132.

Japanese Helmet, all black.

Captain Oldfield.

This is similar to the last example, except that it has no crest or stick at the apex. It is covered with a black color, and could never have been intended for actual wear, as it is made of papier maché instead of iron.¹

¹ The mask marked C is used (I understand) for the purpose of showing off a helmet when in an armoury.

No. 167. Fig. 131.

Japanese helmet, with mask for child's suit. *M. W. Burges.*

This is entirely made of papier maché and lacquer, the only metal used being the gilt crest and the copper receptacle for the stick on the apex.

It is covered all over with dead black lacquer, but the peak over the eyes, the two ailettes and the bottom rim of the camail are gilt, there being a raised pattern in some parts. The laces which bind together the pieces of the camail are blue.

No. 168. Fig. 134.

Japanese Helmet of steel, of peculiar form, with mask and gorget. *Mr. W. Burges.*

This helmet, which is built up, like the others, of various pieces of iron, is distinguished by the extra height given to the back part so as to make a ventilation chamber, which admits air by means of the perforated cinquefoil in front. There remains the attachment of a crest in front and a double spring behind. On the peak is a rude representation of the eyebrows and the wrinkles in the forehead to correspond with the visor below. The latter is in two parts, the nose and moustache being capable of removal. The whole is in iron, but lacquered inside with a beautiful red color. The teeth are represented in copper, and there are also representations of the ears; the latter are pierced with little holes in a sexfoil for the purposes of hearing; the nostrils are also pierced, and there is a hole underneath the chin. There are no traces of either the visor or the helmet ever having been coated externally with lacquer. The camail is formed in the usual manner of thin plates of iron, covered with raised lacquer, tied to each other in the most elaborate manner with laces, white, green, and red. The top piece is attached to the helmet by four ornamental studs, and the lining is sewn to a border of leather (in the mediæval fashion), which is again sewn to the inside of the laces in the top splint of the camail. There are no ailettes, but the top splints turn up at either end. This helmet belongs to the Japanese suit described under No. 42.

No. 169. Fig. 133.

Ancient Chinese head piece. *Mr. F. Weekes.*

This is not a Chinese helmet, but simply a Japanese one deprived of all its belongings.

It is built up in the usual manner, and the lower parts bear evidence, from the number of holes close together, that a good deal of alteration has taken place in the arrangements of the camail, &c. The only point of interest is the provision for ventilation which is made between the top pieces and that which forms the back. It is very rough, and, for a Japanese helmet, a heavy one. Now in Mr. Burges' collection.

No. 170. Fig. 130.

Japanese Helmet of copper, silvered. *Mr. W. Burges.*

This helmet is exceedingly light, and has probably been part of a uniform of a fireman, as it is much too fragile for actual warfare.

A ground of papier maché or thin wood is covered with very thin plates and ribs of copper, which are attached to the ground by a large quantity of nails. The whole has been very thinly silvered, except the upper surfaces of the ailettes and the ornament in front, which have been bronzed. It has had a stick at the apex like Fig. 129, which has disappeared.¹

No. 171. Fig. 135.

Japanese war hat.

Mr. W. Burges.

Made of wood, covered with black lacquer, and some parts silvered.

No. 172, Fig. 136.

Helmet worn by the Commander-in-Chief of the Chinese forces in the campaign of 1860.

General Sir Dighton M. Probyn, C.B., V.C.

This is a very splendid head piece, being composed of a ground of some light material—wood or papier-mache lacquered black, with gilt metal ornaments superposed. The ornaments on the top, those on the peak piece over the eyes, and on the tube that runs up the back, are most exquisitely executed. They consist of dragons and foliage delicately chased, the ground being cut out. Among these ornaments are inserted circular pieces of coral, lapis lazuli, &c.

The camail consists of sundry thicknesses of silk and linen with wadding in between, the outer silk being green and gold and the inner light blue. The whole being edged with silver braid and studded with round and square gilt nails; the shanks of these latter do not go right through but are turned down on a pith washer after they have passed the wadding.

It is most probable that this helmet belonged to the Manchou division of the Chinese army, and in shape it is not very unlike the Tartar helmet No. 120.

Mr. A. W. Franks possesses a helmet which is almost a fac-simile of the one under consideration, and, having had the inscription investigated, he has kindly communicated the result:—"The letters are a repetition of three Sanscrit words very ill-written in a corrupt style used by the Manchous, SRI-HUM-HUM."

Mr. Franks' helmet has preserved the silk tassel and spike on the apex which is given at E. This is wanting in that belonging to General Probyn.

In the India and United Service Museum is a helmet of the same form but without any ornament. It evidently belonged to a private soldier, the dress which accompanies it is same with metal studs, as is also the dress belonging to Mr. Franks' helmet.

W. BURGES.

¹ Another similar helmet in my possession has an elaborate hood of silk with

embroidery and feathers. It is said to be an officer's helmet of the fire brigade.

Mail, &c.

INTRODUCTION.

The history of mail may be summed up in a single sentence, viz. : that it has been used in all times and by all people.

Thus Layard found it among the ruins of the Assyrian palaces, and the good citizens of Birmingham at the present time, among other mysterious manufactures, produce ringed coats for the African market.

Unlike the helmet and the breastplate, where the material and form varied continually, the links of the mail remained substantially the same, while the fashion of the manufactured article (the hauberk) varied as little. The sleeves might be long or short, or conspicuous by their absence, still the body or shirt itself remained the same in all ages and in all countries.

In the basement of the British Museum are shown two masses of oxidised iron, which on closer inspection turn out to be mail regularly riveted, only the points of junction had not been flattened out as is usually the case, but simply spliced together. These were found by Layard at Nineveh. There is also in another room a helmet of iron, not unlike a bascinet ; on the sides are sundry links of mail, which may possibly be the remains of a camail.

The Roman mail is shown on the column of Trajan, of which there is a cast in the South Kensington Museum.

The Persian use of mail is manifest in many of their sculptures, while the effigies of the middle ages offer almost innumerable examples. At the present day brewers make use of mail in the form of mops to clean their vats.

Some writers endeavour to show that the linked hauberk was imported from the East during the progress of the Crusades, and also that it was only riveted at the end of the thirteenth century. But there is no proof of anything of the kind. An unriveted coat must have been exceedingly liable to get torn by hostile weapons, unless the rings were very thick, and then the hauberk must have been exceedingly inconvenient to wear. There were several places which had manufactories of mail during the middle ages, foremost among them were Chambly (Oise) in France, and Milan in Lombardy. Thus in the inventory of the arms and armour of Louis le Hutin¹ we find several instances of the names of these places:—*“Haultes gorgières doubles de chambly ;”* *“Un haubert entière de lombardie.”* The former quotation probably refers to the mail with double links ; the gorget and camail being often of stronger work than the hauberk. In after times strength was obtained by expanding the ends of the rings where the rivets passed, the rings themselves becoming elliptical, not circular, thus effecting the same object as the double mail. The rep ^{riations} of

¹ See Ducange 'Armatura.'

the double mail are exceedingly rare, the most distinct being in an effigy formerly in York Cathedral, and now at Goodrich Castle. Is it too much to hope that it may soon be restored to its proper place?—See *Archæologia*, xxxi, 248.

In Louis le Hutin's inventory we also meet with the terms, "maillles rondes de haute cloïeure," probably resembling the rings of the Sinigaglia coat, with its prominent rivets, and also with "maillles rondes demy cloées," *i.e.* composed with an equal quantity of riveted and continuous rings, as occurs also in the coat in question.

Some writers have gone so far as to hint that all the mail that has come down to us is of Eastern origin; but the reader of the ensuing catalogue will, it is to be hoped, discern that there are certain peculiarities attaching to both European and Oriental hauberks which enable the expert to make a tolerably shrewd guess as to the question of their origin.

It is true that in consequence of the substitution of plate armour for mail many of the old hauberks were doubtless cut up for gussets or used to stuff jacks, but still an immense quantity of new mail must have always been made for new gussets and gorgets.

The "Triumph of Maximilian" shows a considerable quantity of mail at the beginning of the sixteenth century, and the use of the secret coat continued to the times of Cellini, and even to those of Louis XIV., as in the case of Monaldeschi. Even at the present day we occasionally read of an Irish landlord or an English squire ordering coats of mail—the former for himself, the latter for his gamekeeper. In one of these cases the modern armourer made the hauberk of split steel rings, but it was so heavy that the gamekeeper declined to wear it, and preferred taking his chance.

THE MANUFACTURE.

The Dublin coat of mail being in a very dilapidated state, its construction was with little difficulty ascertained, and it thus afforded information as to the manufacture of mail in general.

The first thing is to procure the wire with which the rings are to be made. Sometimes we find very rough wire used, as if it had been made of thin strips of metal rounded by means of the hammer, but generally it is perfectly round, and has evidently been drawn in the usual way. Beckmann¹ places the discovery of drawing iron wire in the middle of the fourteenth century, but as we find two corporations of wire drawers in the *Livre des Metiers* of Etienne Boileau,² it can certainly claim an earlier date, in fact it is one of those manufactures, like mail itself, which the more we investigate the further back we are obliged to place the discovery.

The wire having been obtained was wound round a stick of the diameter that the ring required (Fig. 137). It was then cut off into rings, the ends overlapping (Fig. 138). Then these ends are flattened by hammering (Fig. 139). The next operation is to pierce these flattened parts with a steel punch (Fig. 140). Into this hole a small triangular piece of iron is driven (Fig. 141), and lastly the whole joint is finished off between two punches, an upper and a lower (Figs. 142, 143). The

¹ Bohn's edition, i, 417.

à Paris." Paris, 1837, pp. 60, 61. "Trefliers de fier," "Trefliers d'Archal."

² "Règlements sur les Arts et Metiers

object of the last process is to rivet the little triangular piece of iron, to make the under side of the joint quite a smooth surface, and to take away any asperity from the apex of the rivet, which almost always stands up some little distance from the outside surface.

The above is, of course, only a general description ; in actual working many things would have to be attended to. Thus if the iron of the rivet were not very good it would want frequent annealing in the fire. If, on the contrary, the iron were good much less annealing would be required. Again, it is very possible that a pair of pliers might be substituted for the punches.¹

In Eastern mail we frequently find round wire employed to make the rivets instead of the little triangular piece of iron ; while in the very large rings, such as occur in the Meyrick piece of mail, where there are two holes instead of one, the rivet is formed of a small cramp of iron, square or round, turned up at both ends (Fig. 144). These large rings, if anything, are easier made than the small ones. By using good iron Mr. Barkentin was enabled to make them without passing them through the fire at all.²

Very often it was found desirable to make certain portions of a coat of mail, such as the collars or the edges of the sleeves, stronger than the other parts. This was done by lengthening the ends of the rings, as Fig. 145, bending them back, as Fig. 146, and then flattening them so as to form a large space for the rivet, out of all proportion to the size of the ring. Sometimes the rings which constitute these reinforcements to the piece of mail are larger or smaller than those which are used in the rest of the work ; but in any case they are enlarged at the riveting juncture, and are often elliptical in shape (Fig. 147). Occasionally the edges of a coat of mail are ornamentally finished with brass rings which are often riveted with iron.

The rings were not always riveted, modern Eastern mail is often made with the two ends of the rings butting up against each other. This is also the case with the thirteenth century hauberks of mail exhibited at Ironmongers' Hall, and now at Parham, but the authenticity of these has been more or less disputed ; suffice it to say that nearly every specimen at the late exhibition at the Archæological Institute was riveted ; so much so was this the case that in one instance no less than three rivets were shown on each ring. Two of these, after a close inspection, were found to be false, and only the one in the middle to be real, the false heads being produced by the punch or pincers used in the final operation of completing the riveting.

In some mail the alternate rows are punched out of sheet iron by a double punch, and we often see gaps in the outer circumference caused by going too near previous punchings. This was probably for the sake of cheapness, as the riveting of half the links was saved. Occasionally it would appear that a single punching was used for the inside, the outer circumference being made with a chisel and file (See Figs. 148, 149, 150). Sometimes the rings assume a flattened section instead of a round,

¹ See woodcut in *Archæological Journal*, vol. xxiv, p. 318. Armourers at Work on Mail.

² I owe Mr. Barkentin, the well-known goldsmith of 291, Regent street, very

many thanks for the information he has kindly given me on the practical part of the subject and for the actual making of several rings.

and occasionally Eastern coats of mail are met with where not only are the sections of the ring quite flat and thin, but they are also impressed with inscriptions, as in the case of Fig. 197.

ARRANGEMENT OF RINGS.

Almost every coat of mail will be found to consist of a series of four rings going through a centre one (Fig. 151), but there is another way of arrangement which occurs in classic and Japanese work. See (Fig. 152), a piece of Etruscan work now in the Musée d'Artillerie at Paris.¹

It will be observed that the rings are double in this case, and may perhaps represent the lorica bilix of the ancient writers. But although double mail is mentioned in the mediæval romances, and although it even occurs in a certain effigy formerly in York Cathedral, before mentioned, no actual specimen is to be found if we except a coat of mail in the armoury at Lucerne, where the rings are in couples, side by side; the ends are not riveted, but joined by solder (No. 154). The coat of mail (Fig. 192) belonging to the Tartar helmets has the rings doubled in one part; another form of link is in the form of the Greek letter Θ . This occurs only in oriental work (Fig. 200.)

METHODS BY WHICH COATS OF MAIL ARE STRENGTHENED AND ORNAMENTED.

The plan of enlarging the rivet joinings of the rings was often carried to such an extent that these portions of the hauberk, where it was employed, lost a good deal of their flexibility. Thus in the British Museum there is a standard of mail of which the rings at the top edge are exceedingly close and stiff, and the usual arrangement of the links being altered, so that six rings go through the seventh, not four into the fifth.

Some gussets are found made entirely with these strengthened rings, but they are very rare. Frequently the last one, two, or three rows of the rings adjoining the edges of the hauberk are of brass, finishing up with very small ones formed out of the solid; frequently, also, the edges of the skirt were Vandyked with brass rings as in the Sinigaglia coat.

There is yet another way of strengthening mail, which was first pointed out by Mr. Waller; this is by putting strips of leather through the rings. In the example referred to by that gentleman (No. 156), the strip of leather goes through every alternate row of rings, and when they are pulled up very tightly sideways the intermediate row of rings through which the leather does not go, disappears, as in Fig. 155, and the rings appear to go all one way. If, however, this arrangement is pulled from top to bottom the back row comes into view, and the result is Fig. 156. If we proceed further, and put the leather through the intermediate links, we get Fig. 157, which very nearly represents what Sir S. Meyrick imagined was edge mail, and which occurs in all the early effigies, and frequently in the later ones, the only difference being that a portion of leather is seen between each ring, which is not the case in the effigies. This arrangement would make the coat and chausses of mail more self supporting,

¹ This piece of mail is remarkable for certain pendants attached to some of the links. The whole is in bronze, and the links are cast in lengths.

and prevent them from unduly clinging to the body, and also hinder the links from getting entangled or kinked.¹

The system of leather thongs can be carried yet further by inserting them vertically ; in this case a very stiff garment is produced almost like plate armour, Fig. 158, and very suggestive of banded mail. The only actual examples of leathern thongs inserted into mail are in oriental work, and those only in the collars.

It should be remarked that the leathern strips in all cases are double, so as to obtain the same appearance on both sides.

Many modern Eastern garments of mail are made of rings of various materials, and arranged in patterns. Thus we have iron, brass, and copper. How these are employed, the camails of the Eastern helmets in the late Exhibition afford good examples. It should however be mentioned that the rings are very small and unriveted, and the work modern.

VARIOUS WAYS OF REPRESENTING MAIL IN A CONVENTIONAL MANNER.

It is evident that a correct representation of a piece of mail with all the interlacing of the rings would be a most troublesome labour, and one only fit for a Chinese workman. We therefore find various ways of representing the effect in a sort of shorthand. The early mail on the effigies is rendered by little longitudinal rolls, cut up again with the representation of rings Nos. 159, 160. The width of the band varies from three-quarters to one-quarter of an inch. Sir S. Meyrick thought this represented rings sewed on leather or cloth, but the weight and insecurity of this arrangement is a sufficient evidence of its absurdity. Let anybody who doubts sew rings in this manner upon leather, and its utter impracticability becomes at once obvious. It might represent strips of leather interwoven in the mail as above described, or rings between two layers of leather, but all things considered we may, with Mr. Albert Way and other distinguished antiquaries, be satisfied that it was simply a conventional manner of representing the ordinary interlinked mail. In the Bayeux tapestry, where the figures are small and the materials coarse, the rendering takes the form of rings drawn on the surface of the coat of mail. Many writers have imagined from this that the armour was actually composed of rings sewn on to a cloth or leather. It may be asked how long would any of the stitches last in actual use when the weather had oxidised the iron. A proof that these flat rings represent ordinary mail, is afforded by one of the plates in Grose's *Treatise on Armour* (Plate 54), where a coat of mail is actually engraved by drawing small rings by the side of one another. The fact is that mail is a very difficult thing to conventionalise. Mr. Hartshorne has directed attention to the fact that in many of the effigies in Dugdale's *Warwickshire* the mail is shewn by the engravers as scale armour, in order to simplify the difficulty of rendering it.

It is to be observed, however, when it became a case of rendering the mail in gesso by means of stamps instead of carving that a very tolerable representation of mail is produced, as in the tomb of Edmond Crouchback (Fig. 161). In the effigy at Ash the rings are shewn as interlacing (Fig. 162), and in that of Sir Guy de Brian at Tewkesbury the links of the mail are very small, in fact nearly as small as in some of the modern Eastern examples.

¹ In trying to follow up Mr. Waller's friend, Mr. C. Holmes, obtained the theory concerning banded mail, my above results.

One peculiarity of these gesso representations of mail is that they are all done in lines for the convenience of using the stamp. Afterwards we find the mail gets much larger, and we have very tolerable naturalistic renderings in the early part of the fourteenth century; in fact very like the antique renderings in the Trajan column. (See Fig. 165, from the Despencer tomb at Tewkesbury). Very often in later works we find the naturalistic rendering of the mail on the standard or gorget, while the haubergion or the skirt of mail, which shows under the tassets is executed in the straight lines and cut rings, as we have seen in the effigies of the thirteenth century. (See 163, 164, from the Matthews' effigy in Llandaff Cathedral.) What are we to understand in such a case where we have a naturalistic and conventional rendering of the same material on the same statue? May not this be a case of presuming that the lower parts of the haubergion were stiffened by the strips of leather?

BANDED MAIL.

Antiquarian researches would hardly be the fascinating study they are were there not certain unsolved points upon which everybody agrees to differ; but as soon as one question is answered another is sure to arise, and it probably takes many years before we are fully informed about it. Thus the two great questions for a long time past have been:—1, The murrhyne cups; and 2, The banded mail.

We now know that the murrhyne of the Romans was a species of our fluor spar, or, as it is called, Blue Jack, but the banded mail still awaits a satisfactory solution. Frequently in the MSS. and other art works of the latter part of the thirteenth century we meet with a species of armour in which the lateral rows of links are divided from each other by small bands, the mail itself being what Sir S. Meyrick called edge mail. It should be observed that inside and outside are alike, and that, to a certain extent, like simple mail it was capable of forming folds. M. Violet le Duc, in his *Mobilier*, v, 240, identifies it with the Broigne, and perhaps we should also be warranted in viewing it as the Curie. Various guesses have been made concerning its construction, the result being that we are better acquainted with what it was not, than with what it was.

The solution given by M. Violet le Duc, which is not very unlike that in M. de Vigne's work,¹ is very unsatisfactory, in fact almost more so than Sir S. Meyrick's edge mail. A model on this plan in actual leather and iron was to be found in the case—B—in the late Exhibition at New Burlington Street, and spoke for itself. Not only was it not the same at the back as in the front, but its weight and inconvenience put it altogether out of court.

In preparing for the Exhibition it was thought desirable to obtain casts from the only four sculptured effigies which show this sort of armour, viz.:—(1), the effigy at Tollard Royal, Wilts; (2), that at Tewkesbury (Fig. 170); (3), Dodford, Northamptonshire (Fig. 174); and (4), Newton Solney, Derbyshire (Fig. 166). When obtained the three first certainly presented an unusual appearance, and while they were under consideration Mr. W. G. B. Lewis, to whom the reader owes the draughtsmanship of

¹ De Vigne, "Recueil des Costumes du Moyen Age," 1835-40.

the illustrations of this paper, came forward with a new solution of the mystery.

According to his idea this banded mail was made by sewing rings on linen, so that they overlapped one another in rows, like the edge mail of Sir S. Meyrick (some examples having the rings closer than the others). It was then covered on both sides by sewing on strips of leather, the stitching passing between the rows of rings, and the lower edges of the leather being turned up and covering the upper edges of strips beneath, thus increasing the thickness of leather between the rings to six folds.

Sometimes cords are inserted in the bands when they are very narrow, as in Newton Solney effigy.

When the surfaces had been a little handled so that the impressions of the rings showed through, an almost exact resemblance to the casts was obtained (Figs. 167, 171, 175.)

The only objection to the theory of Mr. Lewis is the unnecessary amount of sewing involved in attaching together the various strips, more especially when we consider the liability of deterioration in the wear and tear of a campaigner, but it hardly appears necessary to make the garment in strips, inasmuch as it is perfectly possible to make the surfaces exterior and interior of two continuous pieces of leather gathering it up, with or without cords, at the intervals between the rows, as in Figs. 169, 173, 177.

On consideration this system results in a lighter, and certainly cheaper, species of armour, than the ordinary riveted coat of mail. It is really in principle the edge mail of Sir S. Meyrick, with all its inconveniences corrected. Thus the rows of rings cannot open because they are between two thicknesses of leather. A sword point could not find an entrance between the rows of rings because the two coats of leather are there gathered up in six thicknesses, besides being perhaps strengthened with cords or flat strips of leather inside the said gatherings.

Mr. Lewis's solution of the difficult question as to the construction of banded mail is here given for what it is worth, but at all events it is reasonable and practical, as may be seen by the restorations which were placed side by side with the casts in this Case (Case B).

MIXED ARMOUR.

This may be described as a number of small pieces of steel, sometimes separate, sometimes in the form of splints connected together by means of mail (Fig. 219). In eastern countries, where the atmosphere is hot, lightness had to be carefully considered in defensive armour. In the west, as a general rule, the supplemental plates for the elbow, the knees and the shins were buckled on over the mail. In the east they were embedded into it, and this fashion continues down to the present day. Witness the coat (Fig. 223).

There are, of course, exceptions to the rule, where the breastplate, consisting of hinged plates, buckles over the coat of mail, as in No. 26; but the mixed armour appears always to have been a favourite mode of defence in the east. It admitted of an infinite means of ornament. The small plates of the splints may be made of various metals. They can be damascened or engraved with ornaments or inscriptions, or even jewelled. In short hardly any armour presents so much ground for decoration. The

Japanese suit, No. 42, is an exceedingly curious specimen of mixed armour, containing specimens of almost every variety of mail and splints. These latter, however, are not riveted, but are tied together in the most ingenious manner with strong silk tape (Plate 14).

JASERANT.

Sir S. Meyrick derives this name from the Italian *Ghiasserino*, a clinker built ship. However this may be, we find the term used at an early period; thus, in the inventory of Louis le Hutin, we find:—"Uns pans et uns bras de jazeran d'acier." And again, we read of "L'hauberk Jazerant."¹ Modern writers, and indeed Sir S. Meyrick himself, have often confounded the jazerant with the brigandine. The facts appear to be thus. The jazerant seems to mean what is called splint armour, viz., a series of overlapping plates fastened together with rivets or else attached to cloth or leather at the back.

The effigy at Ash church, figured by Stothard,² Pl. 61, 62, shows the jazerant hauberk, which, in this case, extended down to the middle of the thighs, and was worn over the haubergion of mail; and here it may be remarked that mere names are apt to be exceedingly deceptive. Thus, the hauberk originally meant the long coat of mail which descended down below the knees; the haubergion being supposed to represent the shorter variety which descended only to the middle of the thighs; but in the fourteenth century, and even perhaps before, the name hauberk began to be applied to something worn over the haubergion. Thus, we have the "hauberk jazerant" of the Ash effigy and Chaucer's "fine hauberk" which is described as put over the haubergion and being full strong of plate (probably jazerant).

Whether this jazerant armour was composed entirely of laminae, as in the splint armour of later times, or whether several series of splints were connected by means of mail, as in the oriental suits, is a doubtful point, as no actual mediæval specimen of this sort of construction has come down to us, the effigies generally showing the bainbergs and other additional pieces of plate as being put over the mail, not imbedded in it, as in eastern work. The only example, viz., the legs of one of the suits exhibited at Ironmongers' Hall, and now at Parham, being of very doubtful authenticity.

Splint armour doubtless came into vogue on account of the trouble in forging the breastplate, whereas a few steel, or iron hoops could easily be put together either by fixing them on to a ground of stuff or by riveting them to each other, so as to make them movable or immovable, according to the tightness of the rivets.

The use of splint armour was continued in the tassets of the fifteenth and sixteenth centuries, and some of the later suits of armour were almost entirely composed of them, greater liberty of movement being obtained by the invention of the so-called almayne rivet.

¹ Meyrick, "Critical Inquiry," vol. ii, p. 7.

² The figure of St. George at Prague

also shows the same defence buckled at the back. See Planche, *Cyclopædia*, ii, 22.

SCALES.

This armour, which consists of small overlapping plates of metal riveted on to leather or linen, has the same antiquity as mail. It is found in the Assyrian sculptures, in the classic monuments, such as the Trajan column; and indeed is used by savages down to the present day.

The most common form is where the edges of the little plates are rounded and where they overlap like tiles, as in the Assyrian and Egyptian examples. Another arrangement was to let them overlay on two sides, and in this case there is often a ring or stud on the other and covered side. Very often the scales are rectangular instead of being rounded at the lower edge. The scales themselves were made of all sorts of substances, iron, bronze, horse hoofs, horn, bone, &c.

The advantages of scale armour, which is only a species of jazarine, were that it could be manufactured out of a variety of substances; that it involved no particular shaping as in jazarine, nor riveting, as in mail, while it allowed a little play and movement, but at the same time it was always open to an upward thrust of the sword. In some of the Assyrian figures we see the scales reversed in pointing upwards, perhaps to avert this objection. Used as a breastplate, it would give considerably more play than if the scales were in a downward position.

There were only two specimens of scales in the late Exhibition, viz., part of the Japanese suit (Fig. 214), and the Polish coat (Fig. 222). They both overlap vertically and laterally, and both are described under their respective numbers 42 and 50. The gorget of the Polish coat is particularly curious as presenting scales with a raised section (Fig. 221).

THE BRIGANDINE.

The brigandine was the reverse of the jazarine. The latter, as already explained, was composed of splints riveted to one another, or to an inside lining. In the brigandine, on the contrary, the splints were inside, and the velvet or other stuff on the outside. As this outer covering was exposed to view it was made of beautiful material, such as silk, velvet, or cloth of gold, strengthened by a lining of thick linen. As the rivet heads were also visible on the outside of these rich materials, they were gilt or tinned, and occasionally made of fantastic shapes, such as crescents, &c. In the old inventories the covering of the brigandine is almost always described. Thus in Sir J. Falstoff's inventory,¹—"item, 1 payres brigandines with rede felfet;" "White payre of brigandines." The brigandine was much worn, inasmuch as it allowed a certain amount of movement to the body, and was besides a very gorgeous piece of dress, but it was not quite so strong as a breastplate when it came to lance thrusts or blows with a serrated mace.

The insides of the late fifteenth century brigandines, such as were in the late Exhibition, consist of rows of small splints, which follow the body in vertical lines from the neck to the waist, round the neck and arm-holes were placed double rows following the shape, and there was generally a continuation of the vertical rows of the splints for some three inches below the waist. These splints overlapped each other on two sides,

¹ See "Archæologia," p. 270.

so that there were always two thicknesses of steel in every part, and they were tinned to preserve them from rust, which would be liable to ironmould and destroy the velvet and canvas to which they were affixed by rivets (see Figs. 216 outside, and 217 inside). As a general rule these splints are of an oblong shape with the corners cut off, but in some rows the upper edges where they overlap upwards are cut into patterns. In one case, viz :— in the piece of brigandine belonging to Mr. Bernhard Smith, the upright rows of splints are divided by unriveted mail.

It would almost appear that the earlier examples of brigandines had the splints longer than was afterwards the case. This occurs in an example in the Musée d'Artillerie, at Paris, where the plates average six inches in length, and the breast and back of splints found at the Tanneberg excavations are composed simply of half hoops.

That the practice of covering splint armour with velvet is of a comparatively early date is shown by the description of two suits of armour for the Dauphin in the *Compte d'Etienne de la Fontaine*,¹ made in the year 1352. We there find two pairs of plates (probably like the Tanneberg ones), one of which was covered with blue velvet and the other with green velvet embroidered. For these two pairs of plates six thousand of silver nails, one half of which were in the shape of a crescent and the other round and gilt, evidently intended for suns and moons. The whole of the rest of the armour was treated in the same manner, as five thousand five hundred nails of crescent shape were wanted besides bosses and buckles for the *garde-bras*, *avant bras*, *coutes* (elbow pieces), *cuisse*, *grèves*, *poulains* and *souliers*. The *coutes* and *poulains* do not appear to have been covered, as they are described as "*poinconnez de feuillage nervés*."

Altogether it would be difficult to imagine a more beautiful suit of armour than this must have been. It is not improbable that the whole suit, including the legs and arms, was made of splints.

The immense number of nails need scarcely surprise us when we consider that in the brigandine, No. 43, formerly in the Meyrick collection, 5500 may be counted.

JACKS.

In the Middle Ages it did not fall to everybody's lot to wear plate and mail; these latter belonged to the rich man. The poor man had to content himself with various substitutes, principally made of linen or leather. The linen cuirass was well known in antiquity, and in the British Museum is a piece of very thick linen, which Dr. Birch thinks may probably be a portion of this kind of armour of Egyptian origin.

In MSS. and other documents we meet with many examples of these substitutes for coats of mail. Thus, in the paintings of the lower chapel at Assisi there are several armed figures in quilted jacks, which were probably not very different from the gambesons worn under the coat of mail in order to deaden the pressure both of the mail itself and of thrusts directed against it.

¹ See "*Comptes d'Argenterie des rois de France*," Paris.—Renouard, 1851.

Sometimes the quilted garment was worn over the mail or by itself, and became what was called a pourpoint, as in the Shurland effigy.¹

The garment of the Black Prince, preserved at Canterbury, is most probably a pourpoint, for the short sleeves do not occur in the cote d'arms of the effigy. There is also a pourpoint preserved at Chartres, in the museum. It is covered with figured damask, and was formerly in the cathedral. Its size and that of the various pieces of plate armour which come from the same place show that it must have belonged to a child. But other substances than cotton or silk were used in the manufacture of the jack. In the inventory of Sir J. Falstoff we read of "1 jakke of blakke linen clothe stuffed with *mayle*; iv jakkes stuffyd with *horne*; 1 jakke of blake clothe lyned with canvas *mayled*." In some cases the jack was stuffed with folds of old linen, as many as thirty, a deer skin included. In fact, the word jack applied to any defensive garment, which was made of two folds of leather or linen, with something between them.

A few pourpoints have come down to us, but no jacks, consequently there were none in the late exhibition. They were, however, represented by their legitimate descendant the "stele cote" of Elizabeth's time. That sent by Miss Ffarington is a very fine example, inasmuch as it possesses its sleeves, which are wanting in the other example from the Meyrick collection.²

¹ See Stothard, Pl. 41.

² Fig. 218 shows the construction of the Meyrick coat, where the iron scales are kept in their place by the string going

through holes in their centres. Fig. 220 shows part of the sleeve of Miss Ffarington's coat.

European Mail.

In the following Catalogue, to avoid confusion, the tickets have been rendered verbatim, so as to afford facilities to those who have taken notes during the past exhibition.

Thus the coats of mail have been designated "hauberks," although it is exceedingly probable that "haubergions" would have been the proper designation.

Again, the division of the mail into European and Oriental is, to a certain degree, arbitrary, and it is quite possible that an object described as in one division may really belong to the other.

No. 1. Fig. 178.¹

Shirt of Mail from Sinigaglia. Fourteenth century.

Sir Noël Paton.

This is one of the few coats of mail which has any decided history. In Meyrick's "Critical Inquiry," we are told that "it had been purchased by a Jew from an ancient family at Sinigaglia, near Bologna, in whose possession it had been beyond any of their records." A note further informs us that "the Jew bought it by the ounce and paid for it forty guineas."

Sir Samuel also observes that it corresponds to the coat of mail on the statue of Bernabo Visconti at Milan.²

It may be described as a simple coat of mail with no slits and no reinforcement. It measures 2ft. 9in. from the top of the collar, and has sleeves which are 10in. long from the armpit. It is wider at the bottom than at the waist, two gussets being inserted for this purpose.

The rings average a good half inch in their interior diameter; half are riveted and half are continuous, the latter have a pear-like section, the rounded part being on the inside circumference. The riveted rings appear to have been made of circular wire but have become rather flattened, probably by wear. The rivets are of the pyramid shape, like those of the Dublin coat of mail, but much bolder and larger.

There is a row of brass rings round the neck, and the bottom of the edge and sleeves are finished by vandykes, also in brass rings, riveted with iron. This is probably the finest coat of mail that has come down to us.

¹ It should be noticed that the *sections* of the rings are twice the usual size.

² See "Archæologia," vol. xviii.

No. 2. Fig. 179. (In Case A.)

Piece of very fine large-ringed Mail with double rivets, from the Meyrick Collection. *Mr. W. Burges.*

The history of this piece of mail, as told by Sir S. Meyrick, is to be found in vol. i, p. 141, of the *Journal* of the Archaeological Association. One of Sir S. Meyrick's tenants procured this and another piece, the latter much broken, from the son of a rope-maker, who had used them for the purpose of rubbing down the projections in his work. The account given being that the entire piece, before it was cut into two portions, came from a church in Gloucestershire. Sir S. Meyrick assigned it to the reign of Edward II.

The Figure 179 shows the size and construction of the rings. The wire is circular, and the points of junction are flattened out very greatly; at the opposite side of the rings are equally traces of the hammer, but not by any means to the same extent as at the points of junction. The rivet has been formed in the shape of a mason's cramp, viz., with two ends turning up.

No. 3. (In Case A.)

Portion of large-linked double-riveted Mail. *Mr. W. Burges.*

A similar piece to the above, only the diameter of the rings is a little smaller; it has also the cramp rivet, but there is no history attached to it.

No. 4. Fig. 180. (In case A.)

Piece of large-ringed Mail, unriveted, of doubtful origin. *Mr. W. Burges.*

This is said to have belonged to one of the coats of mail exhibited at the Ironmonger's Hall in 1861, and now in the Parham collection.

According to the notice in the catalogue of that Exhibition there were found two entire suits (Hoods, Hauberks and Chausses,) of mail, and a portion of a third. They were at one period in the possession of the late Mr. Eastwood of the Haymarket.

The accounts of their origin vary considerably. According to one authority they were found in a church chest; according to another in a vault in a church in Oxfordshire.

It may here be observed that there is hardly any authentic instance of mediæval armour being really found in tombs or vaults. The fact is that it was a great deal too valuable to be thus thrown away, and any account to the contrary must always be looked upon with great suspicion.

The interior diameter of the rings is about half-an-inch, the section of the wire triangular, and there is no rivet, the ends simply meeting one another.

In the same case is a restoration by the well-known Mr. Francis, who presented it to Mr. F. Weekes, the latter eventually giving it to the present possessor. It must be confessed that the appearance of the original rings points to the action of fire rather than to the oxidation produced by age.

No. 5.

Hood of Mail, the upper part formed of large rings.

Mr. W. J. Belt.

The crown of this hood is formed of rings very similar to No. 3, and also riveted with the cramp rivet (*i.e.*, on one side presenting the appearance of a double rivet.) The rest is composed of much smaller and lighter rings, not riveted, but simply jumped.

There can be no doubt about the authenticity of the mail which forms the top, but whether it originally formed part of a hood is open to doubt, and the same may be said as to the age of the lower part.

No. 6. Fig. 181.

Part of a Hauberk found in Phoenix Park, Dublin. An armorial badge of silver, which was found with the Hauberk, is shown in one of the glass cases near the window. Fifteenth century.

Mr. Robert Day.

This is in a very dilapidated condition, but enough remains to show that it reached to about the middle of the thighs, opened up the front, and had short sleeves reaching to the middle of the humerus.

The decayed condition enables us to detect the structure of the rings and their mode of riveting. The wire is round and the rivet pyramidal, the bottom presenting a parallelogram shape.

There are no reinforcing links, but there are some slight indications that the bottom edge may have been vandyked.

This coat of mail was found in June, 1876, and a full description of it will be found in the *Journal* of the Historical and Archaeological Association of Ireland, 4th series, vol. iv, p. 494, Oct. 1878.

No. 7.

Armoial Badge of the O'Neills found, together with a hauberk shown in the next room, in the Phoenix Park, Dublin. Fifteenth century.

Mr. Robert Day.



This is about 1½ in. high in the shape of a reversed shield, with a number of little rings soldered round the edges to afford means of sewing it on to a garment. The material is bronze, plated with silver; in the middle is another reversed shield charged with an uplifted right hand; on either side are two very rudely executed animals (lions) as supporters (not reversed). The work is exceedingly rough not to say barbarous, and is beaten up from behind.

The bloody hand indicates the possessor to have belonged to the O'Neill sept. Mr. Day has, in the kindest manner, lent the Archaeological Institute the wood block of this badge which is here reproduced.

No. 8. Fig. 182.

Hauberk of Mail, probably of the fourteenth or fifteenth century. *E. India U. Service Museum.*

This coat of mail is two feet long from the bottom of the collar, the latter standing up two inches. It has long sleeves but no slits in the skirt. The neck is fastened by a diagonal flap. The original buckle and another fastening still remain. A similar buckle and fastening occur in the Musée d'Artillerie, C. 1, 44. Half the rings are riveted, and the other half are continuous, made in a single piece, and of a flat section, probably punched as regards the inner diameter, the outer circumference being very rough.

The section of the riveted rings is circular, and the rivet is a circular wire. The reinforcement consists in making the collar of smaller rings which are all riveted, except the top row, which are of brass and continuous.

No. 9. Fig. 183.

Hauberk of Mail, with remarkable reinforced collar edged with brass rings, fifteenth century. *Mr. R. H. Wood.*

This hauberk has no sleeves, it opens down the right side and is longer behind than in front; it is slit up the back for six inches; it is difficult to say much about the rings, as the hauberk is in an exceedingly bad condition. This mail is light, the wire being of a round section, and the inner diameter is about three-sixteenths of an inch; the rivet is pyramidal.

The reinforced collar is the most curious point in this hauberk. It is not only strengthened for the usual two inches downwards, but the centre descends as far as three-and-a-half inches from the top edges. In it the rings become smaller and heavier, the outermost row being of brass riveted with iron; beyond this again are sundry small rings of no more than one-eighth of an inch internal diameter. They are cut out of the solid and have a very irregular outline. This hauberk was purchased some years ago in Vienna.

No. 10. Fig. 184.

Waistcoat of Mail from the collections of Sir W. Temple and Lord Palmerston; fifteenth or sixteenth century. *Mr. H. Hippisley.*

This may be described as a waistcoat of mail. It opens right down the front; it has no slits and no sleeves; it is 2ft. 5in. long including the collar. At the bottom edge the back is cut away to the height of 4in., probably for convenience on horseback. The rings are comparatively small having an interior diameter of a bare quarter inch. The section is a parallelogram in the steel rings, in the brass ones it is a circle.

The collar is reinforced to the depth of one inch by means of smaller rings, the two uppermost rows being brass; the lowest of these has a circular section and is riveted with iron rivets of pyramidal form; the uppermost are very small solid rings, one-eighth of an inch diameter. A similar arrangement occurs at the bottom of the waistcoat.

No. 11. Fig. 185.

Sleeveless Coat of Mail with fringe of brass rings.
 Fourteenth century. *Museum of Artillery, Woolwich.*

This is longer before than behind, being 2ft. 2in. and 1ft. 9in. below the collar. It opens down the left side and is slit in front and on the right side for a short distance.

The section of the rings which are riveted is a flattish oval, as if the wire had been made with cut strips of metal. The rivet is triangular, as in the Dublin example. Round the neck the first six rows of rings become larger and broader; round the armholes are two rows of brass rings. There is also a row at the bottom of the skirt; these latter are jumped.

No. 12. Fig. 186.

Waistcoat of Mail, probably German; the collar is reinforced and edged with brass rings. 1500 to 1520.
The Baron de Cosson.

This garment opens right up the front, there are no sleeves and no other slits; it measures 1ft. 10in. from the bottom of the collar.

The links are alternately riveted and continuous, the latter being flat, but the former are of a circular section and riveted with pyramidal wire.

The collar is reinforced by means of smaller rings with larger welding surfaces. There are two rows of brass rings round the top of the neck, the lower one riveted with iron; the upper ones are much smaller, their inner diameter being barely one-eighth of an inch.

No. 13. Fig. 187.

Sleeve of Mail trebly riveted, the cuff of very close mail edged with brass rings. Fifteenth century.
Mr. F. Weekes.

This sleeve is formed of very strong and heavy mail. It weighs five pounds; the rings are apparently closed with three rivets, but upon examination it is discovered that two of these are false, and produced by the pincers or stamps by which the real rivet was fastened, and by the same operation. The section of the ring is circular. The form of the rivet is a matter of doubt, but it may possibly be pyramidal.

The cuff is made of much smaller rings which contain the usual single rivet, and are attached to the larger rings by twos and threes. This cuff extends for one-and-a-half inch in depth, the last two rows of rings are of brass, one of them is the size of the wrist mail and riveted with iron; the last row is much smaller, not much more than one-sixteenth of an inch internal diameter, and appears to have been punched out of solid metal, and the exterior circumference finished with a file.

This piece is now in Mr. Burges's collection.

No. 14. Fig. 188.

Standard or Hausse col. of mail, the collar strongly reinforced. Fourteenth or fifteenth century.
Mr. R. H. Wood.

This standard of mail, which in fact may be described as a mail gorget, was very fashionable in the latter half of the fifteenth century. It is seen in a good many of the brasses and effigies of that period. There are two somewhat similar in the British Museum, one being from the Roach-Smith collection. In the catalogue of the latter, published by the collector, he describes the reinforced collar of his example as being made with six rings round a centre one, instead of the usual four rings.¹

Mr. Wood's standard is exactly like the Roach-Smith example as regards shape, the upper edge being curved to the neck, while the lower one is made into four scallops like a half hexagon with concave sides.

The rings have the section of an oval flattened on one side. The rivet is pyramidal, and all the rings are riveted. The reinforcement is effected in the collar for the space of about two inches downwards, the rings having the same inward diameter as the others, but the wire is much thicker and the part which takes the rivet consequently broader.

Round the lower edges of the outer circumference there is a row of brass rings riveted with iron.

There is a buckle on the inside about three inches from the end, about the middle of the collar, and a corresponding rivet which held a strap about one inch from the other end. As the rivets were generally worn on the outside it follows that the buckle would be on the inside over the left shoulder. This standard of mail was purchased some years ago in Vienna.

No. 15.

Part of a Mail Chausse.

Mr. R. H. Wood.

The form of this piece of mail is more compatible with the theory that it is a camail rather than a leg, as described. The rings which have a flattened section are all riveted; there is no reinforcement and no brass at the edges. It was purchased in Vienna.

No. 16. Fig. 189-190, Case A.

Two Mail Gussets, probably of the sixteenth century, formerly in the Tower collection.

Mr. W. Burges.

These are late fifteenth or more probably even sixteenth century work, but they present no special peculiarity beyond the section, which is occasionally almost triangular, and the rivets which are pyramidal.

No. 17. Fig. 191.

Piece of Mail said to have been found in the Thames.

Mr. W. Burges.

This piece of mail, bought from Mr. Wareham, of Castle Street, came from the museum of a collector.

The section of the rings is now an oval; all the links are riveted with a pyramidal rivet as in the Dublin coat. At the edge there are two rows of brass rings riveted with iron.

¹ I have myself examined this standard but unfortunately was not able to make out the six rings. A friend who assisted at the examination was certain there were

only the usual four rings. The Baron de Cosson has since pronounced for the six rings.

Oriental Mail.

No. 18. Fig. 192.

Hauberk of Mail.

Mr. W. Burges.

This coat of mail was not exhibited, but is now noticed, as it was bought with the Tartar helmets (Figs. 119, 120). The rings exactly correspond with those composing their camails.

It opens for seven inches below the neck and also behind and before at the bottom. There is a collar of three inches deep without any reinforcement. The slit at the neck is closed by two iron hooks one on either side. The arms extend about eleven inches from the armhole, and the length of the coat is two feet eight inches below the collar.

The section of the rings is a very flattened ellipsis, and the rivet is pyramidal as in the Dublin coat. The weight is 14lb. 12oz.

There are no brass rings and no reinforcements except in the angles of the slits where the outer rings are doubled, thus presenting an instance of the double mail. Were it not for the evidence of the camails of the decidedly Oriental (Tartar) helmets, we might easily mistake this hauberk for European work.

No. 19. Fig. 193.

Coat of Mail from N. India, illustrative of banded mail in the collar.

Mr. J. G. Waller.

This coat which is two feet one inch below the collar opens right down the front and is slit at the bottom behind. The sleeves are about six inches long.

All the rings are riveted and have a heart shape in the interior owing to the extremities of the wire being turned in. The section of the wire is circular, and there is the ordinary round rivet.

The peculiarity of this coat of mail is the collar, which has a strip of leather interwoven in every alternate link. A similar specimen is shown in the case B. (Fig. 155.)

The object of these pieces of leather was to stiffen the collar and make it stand up. Generally in Eastern suits of mail this object is effected by making the collar of ropes quilted between two layers of stuff. Mr. Waller thinks this a solution of the mystery of banded mail. This is very doubtful, but it is not improbable that it may account for what Sir S. Meyrick has called "edge mail."

No. 20. Fig. 194

Coat of Mail, riveted links "grain d'orge." Persian, Seventeenth century.

Mr. J. Latham.

This coat opens right up the front, and is slit up for some distance behind. It measures two feet three inches from the bottom of the

collar, which is made of rope between two layers of stuff in the usual Eastern manner. The sleeves project about six inches from the arm hole.

The rings are of an oval section, but the rivet is pyramidal, like the Dublin hauberk.

No. 21.

Hauberk of Mail.

Mr. R. H. Wood.

The nationality of this hauberk is somewhat doubtful, but as the rings are unriveted it has been classed among the Oriental.

It opens right up the front and has a slit behind. The sleeves are very short and the lower edge is vandyked.

The rings are unriveted, and those on the collar are alternately of a round and flat section.

No. 22. Fig. 195.

Coat of Mail, riveted links.

Mr. W. Hwyshe.

This is slit at the neck, also at the lower extremity before and behind; it measures two feet and has no collar. The arms reach to the elbow. The rings are riveted with the ordinary circular rivets. Two sorts of rings riveted and continuous.

No. 23. Fig. 196.

Hauberk of Mail, "grain d'orge." Eighteenth century.

Mr. A. Pfeiffer.

This has all the characteristics of the ordinary Eastern coats of mail. It opens up the middle and is two feet six inches from the bottom of the collar; it is slit behind at the bottom; the arms project six inches. The collar is formed of ropes stitched between velvet outside and silk inside.

The rings are riveted and continuous; the section of the wire circular; the rivets the usual round wire. The section of the continuous rings is very narrow and deep, being cut out of thick stuff.

No. 24. Fig. 197.

Hauberk of Mail, with an Arabic inscription stamped on each link.

Mr. W. Burges.

This hauberk measures two feet four inches in length. There is no collar. It is slit up from top to bottom in front, behind at the bottom there is a slit about eight inches long. The sleeves are very long, and indeed the upper part would cover the back of the hand; the lower part of the cuff is cut back. The section of the rings is a very thin parallelogram; the round rivet is used, and as these rings are something between one-sixteenth and one-eighth of an inch wide, the ends are simply folded one over another before riveting, and it is probable that the same punch fastened the rivet and did the inscription. All the inscriptions are the same. The writing, in the ordinary Arabic character, on each ring contains the names of Allah, Mohammed, Ali, Fatima, Husein, and Hasan.¹

¹ I owe this information to the courtesy of Dr. Rieu of the British Museum.

There are no brass rings and no reinforcement.
Weight, 10lbs. 12oz.

No. 25.

Hauberk of Mail. The hood of mail (Fig. 118), with circular plate at top belongs to this. *Mr. W. Burges.*

Slit down the neck and below at the back. There is apparently a notch cut out in front at the bottom instead of a slit.

This coat measures two feet four inches below the collar. The latter is about two inches deep. The sleeves project eleven inches. The rings are made of thin round wire, riveted with a circular wire rivet. The reverse of the riveting is flat as if no counter punch had been used.

The collar is made of larger rings riveted and continuous of a flat section. The rivets here appear to be pyramidal. They are the same in the hood which belongs to this hauberk.

No. 26. Fig. 198.

Coat of Mail of steel, brass, and copper rings, with breast and back plates, vambraces, and circular shield. Persian, modern. *Mr. W. Burges.*

This is a modern coat of mail made of brass, copper, and iron wire. Very thin and jumped; the diameter (interior) of the rings is one-eighth of an inch. The groundwork is iron, and upon it is a diaper of brass lozenges with a copper centre.

It opens right down the middle, the upper part of this opening and the collar are formed of black velvet padded and studded in a pattern with little gilt copper nails.

Over all is a breast plate in four pieces with damascened borders of gold and connected by leather straps. There are also vambraces of similar work with mail backs to the hands.

No. 27.

Glove or Muffler of Mail. *Mr. A. Hartshorne.*

Small rings; riveted links of circular section; goes all round hand; thumb distinct.

No. 28.

Pair of Slippers, covered with mail and peaks of brass, from India. Sixteenth century.

Mr. W. J. Bernhard Smith.

The mail which is partly riveted and partly continuous is simply sewn on a leather shoe; the peaks are brass half-cones, about one-and-a-half inch long, nailed on to a leather foundation which is a continuation of the sole.

No. 29. Fig. 199. (In Case A, No. 8.)

Piece of Mail with brass ornamental rosettes on the surface.

Mr. W. Burges.

This is an Eastern piece of mail with ornamental roses of about one inch diameter at every three inches over the surface. The roses are octagonal and repousse; the rivets are attached to the inside with solder; a piece of leather and an iron washer secure each rosette to the reverse of the mail.

There is some reason to suppose that this practice of ornamenting mail with brass studs obtained in the West during the middle ages—thus the gold florins supplied for the haubergion of Edw. III.¹ might have been employed in this manner, although it is more probable they were supplied for the gilding. When the bronze effigies of Queen Eleanor had to be gilded, gold florins were bought from the merchants of Lucca for that purpose.

No. 30. Fig. 200. (In Case A, No. 9.)

Portion of Indian Mail with half the rings of the Θ shape, and a border of circular brass rings. *Mr. W. Burges.*

The theta links are probably stamped with a double punch. The small circular links which connect them are very delicate, and are riveted with copper circular rivets. The brass rings forming the border have false rivet heads done with a stamp or pliers.

No. 31. (In Case A, No. 10.)

Piece of Mail with very small links, probably of Indian origin. *Mr. W. Burges.*

These links are not more than an eighth of an inch interior diameter and formed of very thin delicate wire; they are all riveted with minute pyramidal rivets and have the ends of the wires, where the rivets pass through, flattened out as usual.

It will be seen from the perusal of the above catalogues (European and Oriental) that the majority of the western coats of mail have their rings riveted with pyramidal rivets. In the eastern coats we find the round wire rivets more frequently used.

Jazarine and Splints.

No. 32, Fig. 201.

Hauberk of Chain and Plate with rows of laminae, each having an inscription in Arabic, probably of the second half of the fourteenth century.

Museum of Artillery, Woolwich.

This is one of those mixtures of mail and splints so common in the East. It is three feet two inches long, and has rudimentary arms projecting six inches.

¹ See Hewitt's "Ancient Armour and Weapons in Europe," vol. i, 255.

It is slit up the front and back for convenience of riding. Across the breast are a row of laminae covering the abdomen, and a similar arrangement, but to a much larger extent, obtains in the back. It should be observed that these laminae are not fixed over the mail like the plates for the knees, elbows, and legs in the early fourteenth century armour in Europe, but they form part of the hauberk itself and are connected with the mail and with the adjoining rows of splints by means of rings. The plates themselves are engraved with inscriptions in Cufic characters. In the process of cleaning many of the riveted rings have disappeared and been replaced by modern jumped ones. The rings themselves are alternately whole and riveted. The section of the former is round, but that of the latter is flattened. The rivets are round pieces of wire and exhibit on the reverse a circle. In this specimen the riveted rings have the flattened parts turning inwards, thus giving a heart shape to the inside.

The same peculiarity is seen in Mr. Waller's coat of mail.

No. 33, Fig. 202, 203.

Indian Suit of Mail, with curious rows of laminae at the back ; the laminae alternately of brass and iron.

Mr. W. Burges.

This is almost identical with the suit figured in Meyrick's Skelton, Pl. cxl. We are told there that this armour belongs to the bodyguard of the Moguls ; and, that being handed down as a heirloom in families, may be of any age.

This coat of mail is very long, reaching to the middle of the calf of the leg : the sleeves also cover the wrist. It fastens up in front and there is a very long slit behind. There are large overlapping plates in front which protect the belly, not the chest, and behind are three long rows of small overlapping splints which protect the back. In the present instance the splints are alternately of brass and iron. They are embedded in the usual way into the mail ; in these portions the links are of a medium size and are riveted with circular wire rivets (Fig. 219), the middle row being continuous. But the great mass of the coat is made of very small fine rings with raised punched marks for rivets. It is possible that this coat has undergone large repairs.

No. 34, Fig. 204.

Saracenic Arm and Elbow Pieces, found in digging a well at the Chateau d'Arguel (Somme) France. This castle was burnt by the French in 1402. *The Baron de Cosson.*

This arm is composed of two parts joined together, viz., the covering for the upper part of the arm and the elbow piece.

The former consists of five longitudinal rows of splints connected by mail, the middle one being the narrowest, and running down the back of the arm. Each piece of the centre row of laminae is decorated with small copper studs. The edges of all the splints, of which forty-two remain, are decorated with raised dots punched up from behind ; these are however omitted on the upper edges where the splints are overlapped by the others. The connecting mail consists of the usual

riveted and continuous rings, the former circular in section and with round rivets.

This splint work is connected with the upper part of the elbow piece by two-and-a-half inches of smaller mail extending all round ; this mail is smaller than that which connects the splints, and the ends of the rings are very slightly flattened for the reception of the rivet, and in some cases not at all.

The elbow has a joint at the top and bottom, the pieces being connected with copper rivets, of which one appears to be original.

The Baron de Cosson bought this arm from the Comte de Belleval (author of several works on armour), who gave him a written certificate that it was found at the place above named by his brother-in-law, the Comte de Thillerie.

It is by no means improbable that a Saracenic suit of armour may have been found among an army of the early fifteenth century.

The Baron de Cosson has given this piece to Mr. Burges.

No. 35.

Fore Arm made of splint or jazarine work. *Mr. W. Huyshe.*

This is constructed in the usual Oriental manner, viz., with rows of splints connected by mail ; it covers the whole of the fore arm and back of the hand. The copper sixfoil rivet heads which fastened the leather straps of the buckles still remain. It is a very fine piece of defence, and works admirably.

Now in the collection of Mr Burges.

No. 36, Fig. 205.

Saracenic Suit of Armour composed of chain and plate armour, with the mark of the Constantinople armoury. Fifteenth century.

Mr. W. Burges.

Some years ago (40 or 50) a vast quantity of Saracenic armour came over to Europe all stamped with the mark of the Constantinople armoury. There were a few helmets, but a great many breast and back pieces. They consisted, as usual with Asiatic arms, of sundry plates connected by means of mail. The principal plates, viz., those on the breast and back, are circular, and are ornamented with corrugations radiating round a centre. In some of these centres are Arabic inscriptions, but these are very rare, and for the most part the centres are plain. There are also gorget pieces and side pieces. The helmets are very scarce, ending in a long pipe like a reversed funnel. The common opinion with regard to this armour is that it belonged to the janissaries who took Constantinople in 1453.

In the catalogue of the Musée d'Artillerie, at Paris, these breastplates are put down to the seventeenth century. However, if we compare the helmets which belong to them with that numbered II. 173, which contains the name of Bayazid II., son of the conqueror of Constantinople, we shall see how much more simple the former armour is than the latter. Some of the Bayazid helmets were turned out of the Constantinople armoury in very bad condition, and were for sale in London last year. The armour with them consisted principally of splints. In Mey-

rick's Skelton the kettle-lid breastplates, as they are commonly called, are classed among the Persian arms. At the taking of Constantinople we are told by Duclereq¹ that Mahomet's army were of all nations, and armed in the most diverse manner.

The present specimen is very similar to the one illustrated in plate 135 of Skelton's work, and which is described as being lined with green silk and padded with cotton.

Those in the Musée d'Artillerie are edged with green and yellow fringe. The fringe in the specimen under consideration and one of the plates on either side are restorations.

No two of these back and breast plates exactly resemble one another. Sometimes there are various projections beaten out from the back, and in the United Service Museum is a suit where several splints have been inserted between the gorget and breastplate, so that the latter protects the belly instead of the breast. The mail is riveted and continuous; the interior diameter is about three-eighths of an inch; the section of the wire circular, and circular rivets.

No. 37.

Chanfrein and criniere of mail and plate. Saracenic.
Mr. W. Burges.

The criniere consists of three rows of steel plates embedded in mail; at the top and bottom of each plate is a brass rosette three-quarters of an inch in diameter. This rosette, which has eight leaves, is beaten up out of thin brass and is fixed on the plate by a rivet. On each leaf is a little projection beaten up about the size of a pin's head, and similar to the little projections in the Saracenic arm belonging to the Baron de Cossou, No. 34.

On the top of the head is a hexagonal boss of cast copper, with Saracenic ornamentation; it is about one inch high and two-and-a-half diameter, and is fixed to the mail by rivets and a washer.

The chanfrein consists of two plates of steel, one of which is one foot three inches long; this has been broken and shows an ancient mending. These plates are embedded in mail like the criniere, the mail itself is riveted throughout, for the most part with pyramidal rivets, although round rivets occur pretty often. In all probability there have been frequent repairs.

Just under the left ear are three brass rosettes similar to those above described as attached to the plates, but in this instance riveted to the mail and secured by means of a piece of leather and a washer. This is also probably a repair or an insertion, as the rings around are of a different size to the rest.

No. 38.

Fighting Suit of brass mail and horn plates, with silver clasps, from the Illanun Coast of Borneo. Weight, 23lbs.
Mr. W. Pretyman.

This is not unlike antique armour in general appearance. The

¹ See Buchon's Ed. of 1838, vol. x, p. 309.

rings connecting the horn plates are larger than those in the other parts ; they are all made in brass and are jumped, not riveted. Altogether they have a most suspiciously modern look, and almost would indicate an European article made for a foreign market. The copper-silvered ornaments nailed on the horn have no character in their form or engraving.

No. 39. (Fig. 223.)

War Jacket of brass-mail and horn-plates. A Polygar's
suit of armour. *Mr. H. Hippiisley.*

This is very like the last-mentioned, only in this case we have evidence that it was brought to this country some sixty or seventy years ago, and if of European manufacture, it has, at all events, an earlier origin than the one belonging to Mr. Pretyman.

No. 40.

Trousers of Mail and plate, spiked knee caps.
Northern India. Eighteenth century. *Mr. J. Latham.*

This is another example of plates connected together by mail. In this instance the plates are edged with inlaid gold lines and the surface rather coarsely engraved with rabbits. The back parts are all mail, the rings are made of circular wire and riveted with the usual circular rivet.

Those rings which go into the plates are jumped, which may possibly be a modern restoration necessitated by cleaning the pieces of plate, as in the case of the Woolwich hauberk.

It is most probable that these trousers are mere *armes de parade*, as nothing could have been more awkward in actual warfare than the spiked knee-pieces.

No. 41.

Arm-piece of Persian work. Seventeenth century.
Mr. J. Latham.

This presents nothing remarkable as regards mail. It is the guard for the fore-arm, and belongs to the helmet exhibited by Mr. Latham.

No. 42. Plate xiv.

Modern Japanese Suit, interesting as showing many varieties of mail, and similar to ancient and mediæval examples. The helmet belonging to this suit is shown among the Oriental collection. *Mr. W. Burges.*

This may be described roughly as a suit of splints with some portions of mail, but the splints are made of the thinnest steel, covered with lacquer, not riveted to one another or to a ground of leather or stuff, but most ingeniously connected by means of ties and interlacings of silken braid.

The mail on the other hand is not simple interlacing riveted links, but is formed of sundry rings made of fine wire, and put together like the antique example in the Musée d'Artillerie, Fig. 152, and in it are embedded pieces of repoussé iron, ornamented as delicately as goldsmith's work.

As the complete description of the pieces composing this suit of armour, and the various modes of connecting them together by the braid interlacings, would take up almost a volume, the better way will perhaps be to confine the notices to those parts represented in the plate.

The simplest construction appears in the epaulette, or rather the pieces which hang down from the shoulders. (Fig. 209). They are thin curved pieces of steel, two inches wide and eleven inches long, serrated on the upper edge. Lacquer is applied to the external surface in a raised fluted pattern. In it are sundry holes which serve for the passage of a number of silk tapes, which in a complicated manner connect the splints with one another, but in a very loose manner, giving a great degree of flexibility.

The breast-plate is made in a similar manner, only each splint, instead of being formed of one piece of steel, is made of many, which overlap each other edgewise, the edge which overlaps being ornamented with a fluting of lacquer. These little pieces are tied to each other so as to form a splint, and these splints are again connected as in the epaulettes, but very tightly, so as to make a nearly rigid breast-plate, having however some little elasticity; in external appearance it resembles the epaulette.

The tassets are like the breast-plate. On either thigh under the tassets are two supplementary tassets, constructed quite differently to the others. A series of overlapping splints one foot long, by two-and-a-half inches, are tied on to canvas covered with green silk, but these splints are formed by oblong scales, two-and-a-quarter by one-and-a-quarter inches, overlapping at the sides and tied together through holes. They are formed of steel lacquered in black and gold. (See 214).

The gussets under the arms are made of oblong pieces of steel one-and-a-half by one inch, embedded in fine mail made of rings of wire after the antique arrangement. (See 207). The rings have been dipped in black lacquer, and the plates covered with lacquer and gilded, the whole being sewn on a ground of canvas lined with a brown coloured lining, and edged with black silk braid.

This throws some light on the accounts for the lining the armour of the Dauphin in the "Compte de l'Argenterie" of Etienne de la Fontaine.

The back of the neck, the short epaulets immediately connected with the breast-plate and the kneecaps, are made in a manner somewhat similar to the Elizabethan jack (Fig. 208)—small hexagonal pieces of steel about three-quarters of an inch in diameter, have four holes pierced through the middle. They are placed side by side, not overlapping, between two thicknesses of paper; outside is black cloth, inside canvas and red inner linings. The whole affair is kept in its place by means of silk braid, which passes through the four holes in each place. The hexagons are outlined by means of silk threads, which pass from angle to angle through and through. The legs (Figs. 212) are protected in a manner reminding us of the effigy of Sir Guy de Brian at Tewkesbury, longitudinal splints of steel eight and a-half inches long, diminishing from three-quarters of an inch at top to half an inch at the bottom, and made convex for the sake of strength, are connected by five narrow bands of jumped wire mail.

At the back of the calf the splints are shortened and a flat piece of leather takes their place as far as the heel. This was probably to afford room for the expansion of the calf in violent exercise.

The last parts to be mentioned are the sleeves, which are made of wire mail, arranged after the classic fashion, with pieces of the most exquisite iron work embedded in it.

Fig. 213 gives an idea of this sleeve, although a full-sized drawing would be required to do justice to the extreme delicacy of the workmanship.

The mail is sewn on thick canvas with a red linen lining, but the inner part of the arm is composed simply of the canvas and its lining, covered on the exterior with a piece of murray-colored silk damask, edged with brown braid eyelet holes; and a silk cord affords means of fixing the sleeve on the arm.

Brigandines, Jacks, and Scales.

No. 43.

Brigandine composed of small plates of tinned steel covered with canvas and red velvet, to which they are attached by an immense number of tinned nails. About the end of the fifteenth century. (From Meyrick collection.)

Mr. W. Burges.

In Skelton's work (Plate xvi) is a representation of this brigandine, with details of the construction.

The plates are fixed to the external covering of velvet and canvas by means of copper rivets with tinned heads; the plates themselves have also been tinned. The garment opens up the front and was fastened by means of a lace. On the left side is a perforation made by a bullet.

Although the plates of iron in this and other examples of brigandines and jacks may seem thin, it should be remembered that by the way in which they were joined together there were always two thicknesses of iron and in some places as many as three, *e.g.*, where the uppermost rivets occur.

In this example the scales point downwards on the breast and upwards on the back.

No. 44. Fig. 216.

Portion of a Brigandine showing the outside. Fifteenth century.

Mr. W. Burges.

This presents exactly the same construction as we find in the preceding example. It is only a fragment, but as the velvet has been fairly preserved it gives a better idea of its original appearance. The rivets have gilt heads and the splints overlap upwards as usual.

No. 45. Fig. 217.

Portion of a Brigandine showing the inside. Fifteenth century.

Mr. W. Burges.

It is part of the same garment as the preceding, No. 44. The illustrations are taken from below the waist where the scales point downwards. In the body they point upwards.

No. 46.

Part of a Brigandine. Fifteenth century

Mr. J. Bell.

The velvet in this example is green.

No. 47.

Fragment of Velvet Doublet with rows of steel plates
on the inside and strips of ring mail between the rows.*Circa 1500**Mr. W. J. Bernhard Smith.*

The velvet in this case is of a reddish purple colour; the heads of the rivets have been gilt.

The space between the perpendicular rows of splints is occupied by mail of jumped rings, three rows broad, and sewn down to the canvas lining of the velvet covering.

The tinned plates are rather smaller than usual.

No. 48. Fig. 218.

Jack from the Meyrick collection. *Temp. Elizabeth.**Mr. W. Burges.*

In plate xxxiv of Skelton's Work is figured an archer wearing a jack, which may probably be the one in question, except that it is described in the letter press as being of a sky-blue colour and having sleeves.

These latter may probably have disappeared during the various migrations of the Meyrick collection to South Kensington and to Gothic Hall near Bond Street, still the one exhibited in New Burlington Street is covered by white canvas and does not present any traces of a sky-blue colour. It was, however, certainly bought out of the collection while in Gothic Hall.

It consists of a series of irregular octagonal pieces of thin iron or rather of squares with their angles cut off, and a hole in the centre. These are so arranged that every part presents three thickness, and are worked on the tile system, the parts overlapping upwards (the only portions kept quite clear and of one thickness being those immediately round the centre holes). These plates of iron, which are very roughly made and most probably were covered with pitch, are placed between two folds of coarse canvas and sewn down by means of coarse string, which passes through the centre holes, forming a pattern of rough hexagons with lines radiating from the centres. The rudimentary sleeves are simply quilted and have no iron. The edges of the garment are formed by a piece of rope covered with canvas.

This jack is sewn up the back with the exception of a slight slit in the very short skirt; in front it is laced from the peascod point upwards.

The sleeves, which are described in Skelton as being very wide at the shoulders and very narrow at the wrist, and formed in the same manner (as the body), instead of any external cords, were ornamented with little tufts.

No. 49.

Coat and Sleeves of Jack, from Worden Hall.
Temp. Elizabeth. *Miss Ffarington.*

This is similar to the last but has fortunately preserved more of its original appearance, thus the cords are knotted at all their junctions and still preserve some of their little green tassels. There is also a layer of blanket between the outer canvas and the pieces of iron. The right side of the slit down the middle overlaps the other by four inches, and the eyelet holes are double.

The collar is divided into three pieces, and the sleeves are attached by double eyelet holes at the top.

The iron in these sleeves is in long narrow pieces, in vertical rows which overlap one another, being attached, like those in the body, by string running through a centre hole. They have no blanket between the outer layer of canvas and the iron. (Fig. 220.)

Miss Ffarington, when sending this "stiel cotte" for exhibition, most kindly contributed the following note:—

"In the Shuttleworth account books, ranging from 1582 to 1621, published by the Chetham Society and edited by Mr. Harland, we find (p. 44) under May 1588, 'Fourteen hundred of plates of stiel for a stiel cotte viij^s. For nine yards and a quarter of canvas and for piche resine and hempe to made a stiel cotte vi^s and viij^d.' Armourers, as we find in the same accounts, make periodical visits for the purpose of keeping armour of all kinds in good repair.

"Mr. Harland, quoting from Harrison's 'Description of England,' says that shirts of mail or quilted jacks covered with leather, fustian or canvas, covered with thick plates of iron 'that be sewed into the same,' were so common that no town or village had not her convenient furniture.

"Meyrick in his first vol. figures an archer in one (*circa* 1588) and calls them Bowmen's armour.

"They had ceased to be used before the Civil War, but when the Parliamentary sequestrators seized the goods at Worden, September 2nd, 1643, there were 'ten coats of male with pieces at the stare head;' also a great and two small chests. Mrs. Ffarington (her husband being in the wars on the King's side) petitioned the Lancashire Parliamentary Colonels to allow such articles as were considered heirlooms to remain in the house. These gentleman were connections and acquaintances, but they refused unless she could raise £350 to redeem these and other things. This she could not do, and the next inventory taken in February mentions the great chest only as remaining at the stair head. In another half century it seems to have been forgotten that these were only common soldiers' armour, for one of the three of these coats now at Worden has done duty at an heraldic funeral, as if it had belonged to a gentleman, and was removed from Ffarington Chapel in Leyland Church with the helmet now sent and other undertaker's trophies in consequence of some alterations in the year 1816."

No. 50. Fig. 221-222.

Jacket and Gorget of Scale Armour, probably Polish.
Seventeenth century.

Mr. W. Burges.

This is a sleeveless jacket of leather opening up both sides and fastened by means of strong silk tapes, which are riveted in the leather. The scales, which are one and one-eighth inch wide, and one and three-quarters long, are affixed to the leather by two rivets each; in their upper edge they do not overlap each other like tiles, but are in overlapping rows, each scale covering the side of the next. They have their lower edges rounded, and in the centre of each a small projecting moulded lozenge of gilt copper is riveted.

The whole is lined with red leather, and the edges ornamented by a band, half an inch wide, of silver lace. Its weight is 19lb. 4oz.

The gorget is composed of scales one-and-a-quarter inch long, beaten up into a convex form, as in Fig. 221. They overlap generally like tiles in a regular manner, and are fastened at the upper edge by a single rivet to a strong piece of buff leather. The whole is attached to a narrow plate gorget which opens in two parts, with a hinge and almayne rivet. The interior lining has disappeared. The weight of the gorget is 4lb. 4oz., making with the jacket 23lb. 8oz.

Case A.

Frame, containing various fragments of chain mail.

Mr. W. Burges.

European Mail.

1. The Meyrick piece with large cramp rivets.
(See No. 2, Fig. 179).
2. A smaller piece of ditto.
(See No. 3).
3. The Parham (doubtful) mail and its restoration.
(See No. 4, Fig. 180).
4. Two gussets of mail from the Tower.
(See No. 16, Fig. 189-190).
5. A piece of mail; small rings, quarter-of-an-inch diameter thin wire and two pyramidal rivets, probably European.
6. Small piece of Brigandine covered with very fine crimson velvet, gilded nails.

Oriental.

7. Piece of mixed armour of jazarant and mail, probably part of a hauberk.

The rings are partly riveted and partly continuous; the rivets are circular wire. The peculiarity consists in the three rows of rings connecting the jazarant rows of splints; the centre ones, which are continuous, are also double. Another example, to a certain degree, of double mail.

8. Mail with brass rosettes affixed to it.
(See No. 29, Fig. 199.)
9. Piece of mail with theta links.
(See No. 30, Fig. 200).
10. Piece of mail with very small links.
See No. 31).

11. Two pieces like No. 10, but with larger links.
12. Piece of mail with very small links, jumped not riveted. There is a lozenge pattern all over, composed of brass rings. It has probably been part of a modern Indian hauberk.

One of the most curious specimens in this case is a chain of five double bronze links, which was obtained some years ago from Mr. Wareham of Castle street. (Fig. 153). They have been cast in one mould, and have never had their edges properly cleaned off. They evidently formed part of an antique piece of mail, and correspond with the larger of the three specimens in the Ashmolean Museum; these latter were found near Caserta in Magna Grecia, and were purchased in 1872 by Mr. Chester for the Museum. At first one is naturally doubtful how so complicated a casting could be made, but Mr. Barkentin, by means of the *cire perdue* process, cast a row of eight joined links without much difficulty. It would of course have been more difficult to cast them double.

Case B.

Case, with casts of representation of banded mail, from effigies, and various models to show the possible construction of this defence. *Mr. W. Burges.*

This case contained the versions of banded mail as suggested by various writers, and casts from portions of the four effigies which present this particular description of mail. Suffice it to say all the reproductions are eminently unpractical except those executed on Mr. Lewis' system of covering the rings with leather.

This case also contained a series of examples of interweaving strips of leather with mail by Mr. C. E. M. Holmes; also a collar from an Indian hauberk, where a strip of leather goes through every alternate row of links, as in Mr. Waller's example, the whole being covered with cotton wool and enclosed between two pieces of cotton stuff with a printed pattern.

W. BURGES.

POSTSCRIPT.

A long interval of time has elapsed between the close of the Exhibition of Helmets and Mail and the publication of the present Catalogue, and during that interval death has been busy amongst those to whom the Exhibition owed its success. Mr. J. W. Bernhard Smith, long a valued member of the Institute, and Mr. John Latham, a zealous contributor to the Exhibition, were the first to be called away. And then he to whom was due the first idea of the Exhibition, my very dear "collaborateur," William Burges, was taken to his rest in the fulness of his vigour and genius.

His work in this book was his last, and one in which he took the utmost interest.

Only a few days before his last illness he had finally revised and corrected the proofs, and the Catalogue was almost the last subject on which he spoke to me, three days before his death. Apart from its merits, Mr. Burges's portion of this work will therefore be valued by all who had the privilege of his friendship, and knew the genial qualities of his heart, the power, and, what is more rare in this age, the great originality of his mind. If there is anything of value in the mode in which I have treated that portion of the work which fell to my lot, it is to my charming, but, alas! too short, intercourse with him that it is due. He instilled into me the necessity of investigating independently and for myself every point connected with the study in which we were fellow-labourers, and above all his practical training in his art led him rightly to give pre-eminent importance to a close study of the *construction* of every piece of armour which came under his notice.

We had intended that this book should be but the beginning of a more complete investigation of the subject which we loved in common, but that fellowship of labour in which we delighted, and to the continuance of which we looked forward with keen pleasure, was almost at its outset brought to an end by Him who disposes all things.

CHARLES ALEXANDER DE COSSON.

Pyrcroft, Chertsey, November, 1881.