

European Armour

*

circa 1066 to circa 1700

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CLAUDE BLAIR

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"Those who look upon a collection of Ancient Armour as a mere assemblage of *curiosities* have formed a very inadequate idea of its purpose and usefulness.'

J. HEWITT

Catalogue of the Tower Armouries, 1859

Preface

THE writing of a short general history of any large subject is bound to be something of an exercise in the art of cramming quarts into pint pots, and the present work is no exception. I have tried at least to touch on all aspects of the history of medieval and later armour but, because of limited space, I have dealt with some of these less fully than others. As the book is designed primarily to satisfy the long-felt need for an up-to-date English text-book on armour it seemed to me that the main emphasis should be placed on providing basic information; I have therefore devoted over three-quarters of it to an account of the evolution of field armour, chiefly from the point of view of form and construction. A particular difficulty that faces all writers on the evolution of armour arises from the fact that, although all the parts of a harness* belong together, they developed independently. I have accordingly treated them independently in the hope that the reader will be able to obtain an adequate impression of the development of the complete armour from a study of the half-tone plates. Ideally, however, I should have preferred to have an introductory chapter on this subject. Lack of space has similarly prevented me from going into the questions of the different schools of etched decoration, and of the differences in style between armours produced in different local centres, important though these are. I have similarly omitted all references to modern reproductions and fakes and have barely mentioned the semi-Oriental armour worn in Eastern Europe. I have tried to be factual and to avoid controversial matters as much as possible, and for this reason have not attempted to give an account of the group of armours and pieces of armour which, despite their very Italian form, some people believe to be of French or Flemish origin. As matters stand at present there is simply not enough definite information about them to justify separating them from the Italian armours in a book of this sort.

Finally, a word about terminology. The modern practice, which I have followed, is to employ the English terms used while armour was still regularly worn or, where no old one can be found, a modern descriptive term. The use of old terms is not without its difficulties, however, for different words were used for the same thing at different

* *Suit* of armour is a late term. The usual terms employed prior to c. 1600 were *siirmlv*

PREFACE

periods, and, conversely, the same word for different things, whereas it is necessary for the modern writer to be consistent. This means that some terms have had to be given a much more restricted meaning than they would perhaps have had when they were in everyday use, while others have been used to describe objects dating from a time when the term itself had become obsolescent or had not yet been introduced. Nevertheless, the terminology used in this book attempts to get closer to contemporary usage than did that of the 19th- and early 20th-century writers on armour, most of whose works bristle with misnomers and collectors' jargon. I have, where appropriate, drawn the reader's attention to the more glaring and persistent of these errors.*

Although it is impossible for me to thank by name all the people who, in one way or another, have contributed towards this book I would particularly like to express my gratitude to the following: the officials of the many public collections of armour who have allowed me to examine objects under their care or who have supplied information about them by letter; my former colleagues at the Tower of London Armouries; Dr. Bruno Thomas and Dr. Ortwin Gamber of the Waffensammlung, Vienna; Mr. S. V. Grancsay of the Metropolitan Museum of Art, New York; Monsieur Clément Bosson of the Geneva Museum; Mr. E. Martin Burgess; Mr. John H. Harvey, F.S.A.; Mr. A. V. B. Norman; Miss Blanche M. A. Byrne and Mr. Howard L. Blackmore, F.S.A. Graf Hans Trapp has very kindly allowed me to illustrate a number of pieces from his incomparable family armoury at Churburg, while Mr. C. O. von Kienbusch of New York and Mr. R. T. Gwynn of Epsom have generously placed photographs of objects in their important private collections at my disposal. I am also grateful to Mr. J. F. Hayward and Mr. A. R. Dufty, Sec. S.A., for reading through the MS. of the book and making many valuable criticisms and suggestions. A special word of thanks is due to Mr. H. R. Robinson of the Tower of London Armouries both for his splendid drawings and for many valuable suggestions for the choosing thereof. Finally, I owe a great debt to four people: to my mother and my late father, and to my old friend Dr. J. T. D'Ewart, F.S.A., who encouraged my early interest in armour, and to my wife, who encourages my continuing interest.

August, 1958

CLAUDE BLAIR

* Most of them stem from Sir Samuel Rush Meyrick, but his great pioneer work in the field of arms and armour must not be underestimated because of this.

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Acknowledgment

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Bayerisches Nationalmuseum, Munich, for Fig. 58; British Archaeological Association for Figs. 9, 11 and 12 from their *Journal*, XXXIII (1877); Department of Western MSS. Bodleian Library, Oxford, for Fig. 19; Bundesdenkmalamt, Vienna, for Fig. 34; Germanisches National-Museum, Nuremberg, for Fig. 56; Mr. R. T. Gwynn, Epsom, for Fig. 39; Kestner Museum, Hanover, for Fig. 3; Mr. C. O. von Kienbusch for Figs. 29 and 50; Kunstfreunde, Hanover, for Fig. 18; Kungl. Vitterhets Historié och Antikvitets Akademien and Antikvarisk Topografiska Arkivet for Figs. 20, 21 and 22; Kunsthistorisches Museum, Vienna, and Dr. V. Oberhammer for Fig. 41; Kunsthistorisches Museum, Vienna, for Figs. 49, 57, 62 and 65; Kunstmuseum, Basle, for Fig. 33; The Metropolitan Museum of Art, New York, for Figs. 43 and 52; Ministry of Works (Crown copyright photographs) for Figs. 31, 35, 40, 44, 45, 46, 51, 53, 54, 55, 59, 61, 63 and 64; The Monumental Brass Society for Fig. 13; Musée Royal d'Armes et d'Armures, Brussels, for Fig. 60; The Trustees of the National Gallery, for Fig. 32; The Phaidon Press and Percy Hennell (photographer) for Fig. 2 from the volume *The Bayeux Tapestry* edited by Sir Frank Stenton; Pierpont Morgan Library, New York, for Figs. 5 and 6; Rômer Museum, Hildesheim, for Fig. 26; Mrs. Randolph Schwabe for Figs. 7, 8, 10, 15, 16, 23 and 24 drawn by Professor Randolph Schwabe from *A Short History of Costume and Armour* by Francis M. Kelly and Randolph Schwabe; Stadtmuseum, Nördhngen, for Fig. 1; Count Hans Trapp and Dr. Ortwin Gamber for Fig. 30; Count Hans Trapp and Dr. V. Oberhammer for Fig. 36; Count O. Trapp and Sir James Mann for Fig. 28; The Trustees of the Wallace Collection for Fig. 47.

The Author and the Pubbshers would bke also to thank the Editor of *Apollo* for permission to quote the extract from the late Mr. F. M. Kelly's article on Mail on page 20.

Abbreviations

- A.J. *The Archaeological Journal*. Published by the Royal Archaeological Institute, etc., London
- Arch. *Archaeologia*. Published by the Society of Antiquaries of London
- B.M. British Museum
- Gay. Victor Gay, *Glossaire Archéologique du Moyen Age et de la Renaissance*, 2 vols., Paris, 1887 and 1928
- K.H.M. Kunsthistorisches Museum, Vienna
- M.A. Musée de l'Armée, Paris
- M.M. Metropolitan Museum of Art, New York
- N.H.M.S. National Historical Museum, Stockholm
- P.R.O. Public Record Office, London
- R.A.M. Real Armeria, Madrid
- S.L.M. Schweizerisches Landesmuseum, Zurich
- T.L.A. Tower of London Armouries
- Vienna Waffensammlung, Vienna (part of the Kunsthistorisches Museum)
- W.C.L. Wallace Collection, London
- W.S.V. As under 'Vienna'
- Z.H.W.K. *Zeitschrift für Historische Waffenkunde*. See bibliography
- N.B. I have reduced references to a minimum in order to save space but have tried to give the sources of all quotations from documents. I have also tried, where possible, to give the catalogue-numbers of armours and pieces to which I make reference but it has not always been possible to discover these.

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1. The Age of Mail

c. 1066-c. 1250

ARMOUR can be divided on a constructional basis into three groups : (1) Soft armour, that is quilted fabric and leather that has not been subjected to any hardening process. (2) Mail, that is a defence of inter-linked metal rings (294). (3) Plate, of metal, cuir-bouilli,* whalebone or horn. This last group can be sub-divided according to whether it is composed of: (a) large plates articulated only where necessary for the movement of the body and limbs ; (b) smaller plates riveted or sewn to fabric to produce a completely flexible defence (the so-called *coat-of-plates* construction) ; (c) small plates joined together by a complex system of lacing (the so-called *lamellar* construction) (295).

All the above kinds of armour were known in the Ancient World and were widely used in the Roman army under the Empire. With the breaking up of the Western Empire, however, plate appears to have gone almost entirely out of use—in Western Europe at least—except for the helmet. The process was probably a very gradual one, particularly amongst those peoples who had been long under Roman influence, but the information about this period is so scanty that it is at present impossible to form a clear picture. It is likely that some form of plate was always known, for the smith who was capable of making helmets of the type that remained in common use must also have been capable of making plate body-armour. Certainly a kind of lamellar armour appears to have been worn by the Vendei people of Scandinavia, by the Franks under Charlemagne and by the Vikings, and there is ample evidence for the long-continued use of this construction in Eastern Europe. A version of the coat-of-plates construction made of small overlapping scales seems also to have remained in constant use (296-8). Despite this it is probably safe to say that during the period c. 600-C.1250 when anything other than soft armour was worn it was in ninety-nine cases out of a hundred made of mail.

The problem of the origin of mail does not concern us here. Suffice it to say that, although it was probably ultimately of Eastern origin, it was not, as is popularly believed, brought back to Europe by the Crusaders but was in use here at least as early as the 2nd century B.C.

* Leather hardened by soaking it in heated wax.

THE AGE OF MAIL

It is the most difficult of all types of armour to date, for its construction appears to vary so little whatever its age or country of origin. Recent research by Mr. E. Martin Burgess¹ seems to indicate that this lack of variation may be more apparent than real, but there is still insufficient evidence available for any definite conclusions to be drawn.

European mail appears to have been composed invariably of circular rings arranged so that each one has four others linked through it (294). The rings themselves are always of one of two types: riveted (each made of a short length of wire with its two ends flattened, overlapped and joined by a rivet), or solid (made without any join). Any mail that has links with the ends simply butted together is almost certain to be Oriental or a modern reproduction.* Solid links are always found arranged in alternate rows with riveted links (294), but as this type of construction appears to have gone out of fashion in about 1400 it is not often encountered. The other construction, in which all the links are riveted, remained in use as long as mail did, and the vast majority of surviving specimens are made in this way.

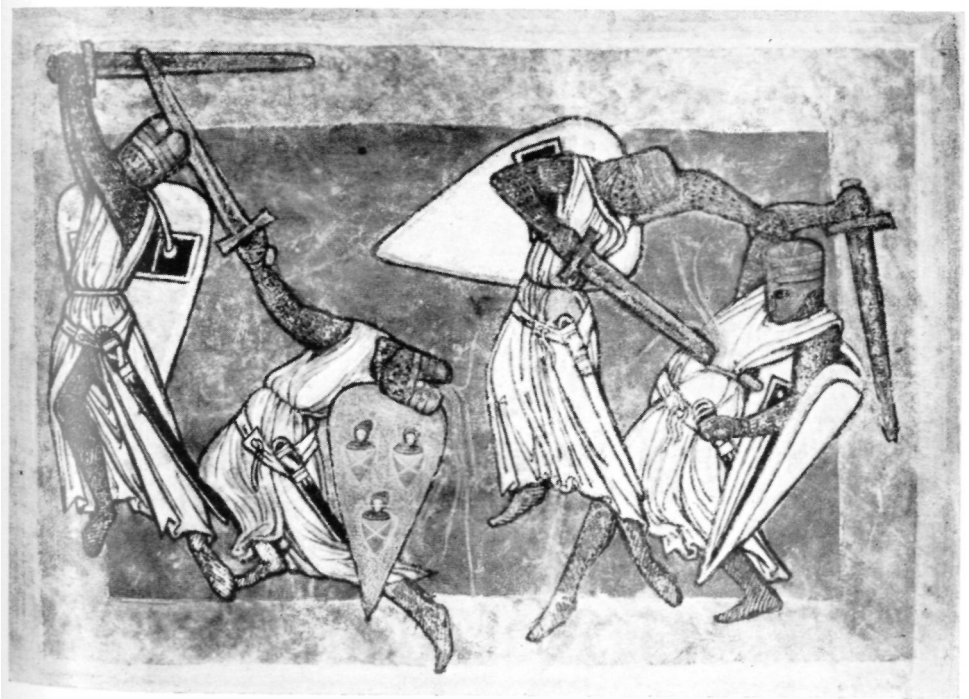
A great many misconceptions about mail were current in the 19th century, most of them stemming from an article by Sir Samuel Rush Meyrick on 'Antient Military Garments formerly worn in England'.² They still appear from time to time in otherwise reliable works on social history, monumental brasses and the like, and it is necessary to warn the reader against them. I can do no better than quote the late F. M. Kelly's remarks on the subject:

And at the start let me define plainly what I mean by 'mail'. I hold that in the Middle Ages and, indeed, as long as armour continued, so to speak, as 'a going concern', the term applied properly, nay, exclusively, to that type of defence composed . . . of interlinked rings. Only through a *late* poetical licence did it come to be extended to armour in general. 'Chain-mail' is a mere piece of modern pleonasm; 'scale-mail' and still more 'plate mail' stark nonsense. As for Meyrick's proposed classification of mail—'ringed', 'single', 'double-chain', 'mascléd', 'rustred', 'trelliced', etc.—it may be dismissed without further ado. His categories, in so far as they were not pure invention, rested wholly on a misconception of the evidence; the passages he cites to support his theories of 'ringed', 'trelliced', 'mascléd', etc., all refer to what he calls 'chain' mail; otherwise MAIL pure and simple.³

* The fragments of mail found in the Sutton Hoo ship-burial and now in the British Museum appear to be an exception.



2 Detail from the Bayeux Tapestry, 1066-82



3 'The Victory of Humility over Pride'
etail from the Trier *Jungfrauenspiegel*. German, c. 1200. The coat of arms is a later
addition. *Kestner Museum, Hanover*



4 Effigy of William Longespée the Elder, English, c. 1240. (After Stothard.)
Salisbury Cathedral



5 (right), 6 (below) Details from the Maciejowski Bible.
French, c. 1250. *Pierpont Morgan Library, New York*



It must not be assumed from this that there was only one standard type of mail. Late medieval inventories and accounts contain frequent references to 'flat' mail, 'round' mail, mail *de haute clouure*, mail à *grain d'orge* and, more rarely, 'double' mail. All these terms clearly refer to variations in the size and section of the rings and the rivets holding them. One term used in connection with mail and found frequently in literary texts, inventories and accounts of the 11th to the 16th centuries is, however, more difficult to explain. This is the word *jazerant*. It occurs, in a variety of spellings, in most European languages, sometimes used adjectivally and sometimes independently when it denotes a shirt made of jazerant. Meyrick, on the basis of an incorrect interpretation of the etymology of the word,* suggested that it meant a defence made of horizontal, overlapping plates, but this view is quite untenable. It was pointed out by J. Hewitt as long ago as 1862⁴ that the textual evidence shows quite clearly that jazerant was some form of mail. Its exact construction, however, is still uncertain.

The most important source of information for the actual appearance of the armour used in the second half of the 11th century is the **Bayeux Tapestry**,† which dates probably from between 1066 and 1082 (2). In many ways this is unfortunate, for not only has the Tapestry been subjected to many arbitrary restorations but even when new it must have been of a very crude and summary character. The methods of representing the textures of the various garments and defences shown are highly conventionalised, so that it is impossible to interpret them with certainty. The majority of the armoured figures wear knee-length shirts, slit from hem to fork for convenience in riding, with wide sleeves extending to just below the elbows. One example has a slit over the left hip through which the sword is passed. We know from such contemporary sources as *The Song of Roland* that the main body-defence of the period was the mail shirt (**hauberk** or **byrnie**), and there can be little doubt, therefore, that this is for the most part what is depicted here. In some cases quilted fabric or leather, perhaps reinforced with metal studs, may be intended while, in one of the earlier scenes, Count Guy of Ponthieu appears to be wearing a hauberk of

* The *Oxford Dictionary* suggests that it is derived from the Spanish *Jazarino* (Arab *al-jazirah*)—Algerian. A more probable derivation is from the Arab *kazdghand*, which the 12th-century Saracen Usâmah describes as consisting of a mail shirt or shirts between two thicknesses of padded fabric (P. K. Hitti, *Usâmah's Memoirs*, Princeton, 1930). A similar construction was used in the 15th and early 16th centuries for a body-defence called a *gestron*, a word which may well be a late corruption of one of the many forms of *jazerant*.

† It is not, of course, a true tapestry but an embroidery.

THE AGE OF MAIL

overlapping scales. The necks, sleeves and hems of most of the hauberks are bordered by broad plain bands while many have an oblong frame formed of similar bands at the top of the chest. The significance of these is uncertain, but they probably represent nothing more than an ornamental fabric edging or possibly part of a lining to the hauberk.* If this is so, the frame on the chest may well be a panel of mail applied to reinforce the vulnerable slit at the neck-opening.

Most of the warriors wear close-fitting hoods (coifs) which leave only the nose and eyes exposed. Some of these appear to be of fabric and presumably formed part of the garment which, although not otherwise visible, must have been worn beneath the armour. The majority, however, are clearly of mail usually made in one with the hauberk but, in a few instances, apparently separate. The legs are normally covered only with hose or with criss-cross bindings, but several of the leading figures wear mail leggings (chausses) and under-sleeves protecting the fore-arms. Shoes are invariably worn, and there is no means of discovering whether they covered the lower ends of the chausses or whether the latter terminated at the ankles.

Although much mail has survived from earlier and later periods, no examples dating from the 11th-13th centuries are known.^f The nearest in date to the Tapestry is a hauberk, said to be that of St. Wenceslaus, preserved in the Cathedral treasury at Prague. It has been suggested that it is not likely to be earlier than the 13th century but, as far as one can judge from a photograph, there appears to be no reason why it should not date from before the Saint's death in 935.

The St. Wenceslaus hauberk is constructed entirely of riveted iron rings, and in general form is very similar to the hauberks shown on the Tapestry, except that the skirt is split at the back only. It is by no means certain, however, that this last feature is not the result of damage. The neck-opening is unfortunately in such a tattered state that it is impossible to be sure either of its original shape or whether it formerly carried a coif. As on most hauberks a slit, which would have been closed with laces, extends from the neck down the centre of the chest. Associated with the hauberk is a separate mail collar of the 15th century.

* They are coloured variously as if to represent cloth, but as the colouring of the whole tapestry is more than a little eccentric too much significance cannot be attached to this. It is unlikely that they represent the projecting edges of an under-garment, as they occur on some detached hauberks in the scene showing the provisioning of the Conqueror's fleet.

† A hauberk found on the site of the Battle of Lena (1208) is in the National Historical Museum, Stockholm. Unfortunately it has not yet been possible to unroll it.

Most of the warriors on the Tapestry wear helmets over their coifs. They are invariably conical with a bar-like extension (nasal) over the nose and, in a few instances, another extension at the back. This last has been interpreted as a neck-guard, but there seems to be no other evidence of such a feature at this date. On the other hand, there are a number of 12th-century illustrations of conical helmets with one or two broad ribbons hanging down the back, and this is probably what is intended on the Tapestry. The purpose of the ribbons is unknown, but in all probability they were merely ornamental like the *infulae* on a bishop's mitre.

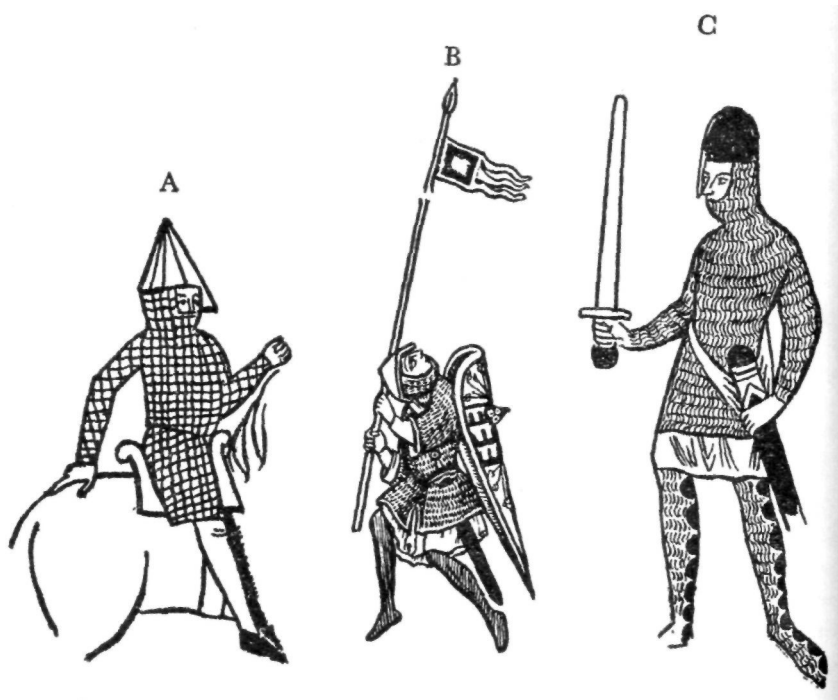
The majority of the helmets on the Tapestry seem to belong to the group to which the modern German term *Spangenhelm* has been applied, that is to say they are built up of segments and bands. This construction is of great antiquity and remained in use in a modified form until certainly the 14th century. It is best known from a group of excavated late-Roman and Migration-Period examples. Most of these are of very similar form to the helmets on the Tapestry except that nearly all have, or formerly had, hinged cheekpieces. Each consists of an iron or bronze framework—formed of a headband supporting vertical bands which converge at the apex of the helmet—with a separate nasal riveted to the lower edge and a fining of iron, bronze or horn. The evidence provided by illuminated MSS, carvings and seals shows that this type of conical helmet remained in general use apparently almost unchanged—except that the cheekpieces were eventually discarded—until well into the second half of the 13th century. Other helmets on the Tapestry appear to be constructed only of segments without the framework of bands. A conical iron helmet made in this way, said to have been found in the North of France, is now in the Metropolitan Museum, New York. It may well be roughly contemporary with the Tapestry although there is unfortunately no external evidence by which it can be dated precisely. In its present very decayed state it consists only of a conical skull, made of four segments overlapping vertically and riveted together, but it would certainly have originally had a nasal made in one with the front segment or else attached to a separate strip riveted to the lower edge.

A few of the helmets on the Tapestry seem to be made in one piece, and here we are on firmer ground for two conical helmets made in this way have survived. The first of these, in the Cathedral at Prague, is said, like the hauberk mentioned above, to have belonged to St. Wenceslaus. It consists of a low conical skull, beaten from a single piece of iron, with a reinforcing strip and a separate nasal, both of iron

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also, riveted to its lower edge. The nasal and the reinforcing strip are decorated respectively with a conventionalised crucifix and interlaced strapwork in silver overlay. The character of this decoration leaves little doubt that the helmet dates from the 9th or early 10th century and could therefore have belonged to St. Wenceslaus. It should be noted that even at this early period there were armourers who were capable of beating a helmet-skull out of a single piece of iron.

The other surviving helmet of this type was found in Moravia and is now in the Imperial Armoury at Vienna (67). It is very similar to the St. Wenceslaus helmet except that the nasal is made in one piece with the skull, and there is no trace either of decoration or a reinforcing



7 Details from illuminated MSS.

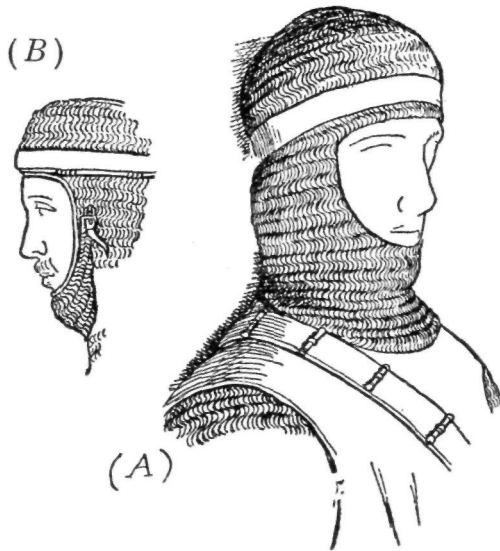
- (A) *Apocalypse of S. Sever*, French, produced between 1028 and 1072. *Bib. Nationale, Paris*.
- (B) *Winchester Bible*, English, c. 1170.
Winchester Cathedral
- (C) *Psalter of St. Louis*, English, c. 1200.
University Library, Leyden

strip- It is usually dated to the 11th or 12th century, but there seems to be no reason why it should not be a century earlier or later.

The evidence provided by sculpture, illuminated MSS and seals shows that armour similar to that shown on the Tapestry was in use all over contemporary Europe (7, A). Towards the end of the 11th century another type of hauberk with fairly close-fitting sleeves extending to the wrists (7, A and C) started to become increasingly popular, although it never completely superseded the older form (7, B). From c. 1100 until the general introduction of the surcoat at the beginning of the 13th century the ends of an under-garment, often with long, flowing skirts, are usually shown projecting from below the hauberk (7, B and C). Otherwise, apart from a few minor variations, military equipment remained virtually unchanged from the period of the Tapestry until the second half of the 12th century.

As pointed out above, there is some likelihood that separate mail coifs are shown on the Bayeux Tapestry. Even if this is correct, the fashion does not seem to have lasted very long,

for no other illustration of a separate coif earlier than the third quarter of the 13th century has yet been noted. No actual example of a hauberk with coif attached has survived, but many 13th - century illustrations show that the coif was fitted with a flap (ventail) that could be drawn across the mouth and secured by a strap and buckle or lace at the side of the head (5 ; 8). It can be safely assumed that this arrangement was in use from, at the latest, the end of the 11th century, for 'ventailles' are mentioned in *The Song of Roland*.



8 Coifs and circles on two English effigies

(A) Sir Gerard de Lisle, c. 1280. *Stowe-Nine-Churches, Northamptonshire*

(B) William Mareschal the Younger (?) c. 1240-50. *Formerly in the Temple Church, London*. Note the fastening of the ventail

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When no action was expected the ventail was normally unfastened and the coif thrown back off the head (5 ; 6 ; 13).

After c. 1150 illustrations of mail chausses become common. Two varieties occur, both worn braced up to the girdle of the breech beneath the armour:

(1) A strip of mail down the front of the leg laced across at the back and under the sole of the foot (7, C).

(2) A stocking of mail shaped like the contemporary civilian hose and fitting closely to the leg ; a kind of garter threaded through the mail below the knee was often used to give additional support (4).

The middle years of the 12th century also saw the first appearance of a long fabric garment worn over the armour (3-6). This was sometimes called the surcoat—the term generally used by modern students—but more usually the *coat armour* (*cote à armer*). Various reasons for the introduction of the surcoat have been put forward in modern times, but none is based on any definite evidence. One suggestion, that it was a kind of waterproof, is derived from an oft-quoted passage in the 14th-century metrical romance, *The Avowing of King Arthur*:

'Gay gowns of grene
To hold thayr armur clene
And were hitte fro the wete.'

It seems unlikely that a loosely-fitting cloth gown could have performed this function very efficiently. Another tempting theory is that it was adopted as a convenient method of displaying the wearer's personal heraldry. Unfortunately, while it is true that a developed system of heraldry and the surcoat both appeared at about the same time, illustrations of armorial surcoats are extremely rare until the early 14th century. In fact, the once widely-held belief that the surcoat was first adopted by the Crusaders as a protection against the Palestine sun, though not generally accepted now, may contain an element of truth. We know that the Saracens wore long, flowing over-garments and it is not improbable that these were imitated by the native Franks of the Latin Kingdom of Jerusalem, as other items of Saracen dress undoubtedly were, and so introduced into Europe.

The earliest illustration of a surcoat known to the writer is worn by the figure of Waleran de Bellomonte, Count of Mellant and Earl of Worcester, on his seal attached to a charter which can be dated to before 1150.⁵ This is not only an exceptionally early illustration of a surcoat but the garment itself is also unusual in having wrist-length sleeves, a fashion that did not appear again until the second half of the

13th century and that was rare until the second half of the 14th century. It fits the body fairly closely as far as the hips and then flares out into a flowing, ankle-length skirt, split for riding. The sleeves fit closely as far as the wrists, where they widen suddenly to form long, streamer-like tippets. Very similar surcoats, without sleeves, are shown on an illuminated initial-letter, c. 1170, in the Winchester Bible (Book of Joshua), and on the Great Seal of King John, which presumably dates from 1199. But illustrations are rare until after c. 1210 when the surcoat seems to have been universally adopted. Henceforth until c. 1320 it is usually shown as a loose-fitting, sleeveless gown with wide armholes, and with a split skirt that normally extends to the middle of the calves, although both ankle- and knee-length skirts are also quite common throughout the period (3; 5). After c. 1220 wide, elbow-length sleeves were occasionally worn although illustrations of them are rare until the second half of the 13th century.

During the last quarter of the 12th century it became increasingly common for the long sleeves of the hauberk to be extended to form mittens (so-called **mufflers**). An apparently unique illustration of what is probably the first stage in this development occurs in the illuminated initial in the Winchester Bible, mentioned above. This shows knights wearing hauberks with sleeves that extend over the backs of the hands but leave the fingers and thumbs bare. Usually, however, the muffler is shown as a bag-like extension to the sleeve with a separate stall for the thumb (3-5). This form remained in constant use until c. 1320 and is occasionally found even later. For obvious reasons the mail did not extend over the palm of the hand; this was covered with fabric or leather, usually with a slit so that the hand could be easily disengaged from the muffler when fighting was not imminent (13; 155). Many illustrations of mufflers show a thong or cord threaded through the mail round the wrist, presumably to ensure a firm fit and to prevent the sleeve of the hauberk from dragging on the hand. After c. 1250 illustrations of mufflers with separate fingers are occasionally found, but the earlier form seems always to have been the more popular.

The conical helmet with a nasal remained in use until well into the second half of the 13th century. After c. 1150, however, a round-topped version, often without a nasal, became increasingly popular (7, C). In about 1180 another variant made its appearance, usually cylindrical, although sometimes tapering slightly from top to bottom, and with a nat or slightly-domed top. Both types remained in use until c. 1250, but after c. 1220 the most popular head-defence seems to have been the small, hemispherical skull-cap (**cervelière** or **bascinet**), which remained

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in wide use throughout the remainder of the century and which from c. 1250 was frequently worn under the mail coif (5). Indeed, this practice had probably already started shortly after c. 1200, for many illuminated MSS. and effigies dating from the first half of the century show coifs which, to judge by their outlines, would seem to conceal cervellières (5 ; 8).

After c. 1180 all three types of helmet, conical, flat-topped and round-topped, were occasionally fitted with a face-guard, in shape rather like a modern welding-mask, pierced with ventilation-holes and two slits for the eyes (3). This feature came into general use during the first decade of the 13th century and quickly evolved into the most complete medieval helmet so far devised, the helm or *heaume* (so-called 'great' helm). The first stage in this evolution was the addition to the helmet of a short, fixed neck guard ; by c. 1220 this had been extended round the sides to join the face-guard, producing a cylindrical head-piece, until c. 1300 almost invariably flat-topped, which completely

9 Helm. Detail of statue on the west front of Wells Cathedral, c. 1230-40. Cf. 79



enclosed the head. Sometimes the face-guard is shown with applied reinforcing strips in the shape of a cross, of which the horizontal arms contain the vision-slits, but otherwise the form of the helm re-

mained virtually unchanged until the last quarter of the century (9 ; 79).

The helm was invariably worn over the coif and arming-cap (p. 34), although, on the evidence of surviving specimens of later date, there can be little doubt that it also had its own padded lining. It seems always to have been equipped with a chin-strap, the ends of which were tied together.

The introduction of the face-guard coincided with—if, indeed, it did not bring about—the reintroduction of the practice of wearing a crest on top of the helm, presumably to make the wearer more easily identifiable. Crests had been used extensively during the Migration Period, but they seem to have soon gone out of fashion and I have been unable to discover any indication that they were ever worn again until the last decade of the 12th century. Even after this they are rarely shown in contemporary art until the second half of the 13th century, and they do not become common until the early 14th. The earliest known illustration of one of these crests occurs on the second Great Seal of King Richard I, which probably dates from the time of his second coronation in 1194. It shows the king wearing a flat-topped helmet with a face-guard, surmounted by a fan-shaped crest with one of the royal

leopards depicted on the visible side. A German MS. *Eneide* of c. 1210-20 in the Staatsbibliothek, Berlin, contains many illustrations of similar crested helmets. The crests shown are of three main types, used singly, in combinations of two, or even all together on the same helmet. There are free-standing devices, usually birds and animals, or parts thereof, one or two pennons, painted with a device and mounted on miniature flag-poles or a device painted on the upper part of each side of the helmet. Occasionally helmets, both with and without crests, are shown bound with a scarf with trailing ends, rather like the later mantling.

We know very little of the way in which these early crests were made. The *Philippide* of Guillaume le Breton (*ob. c. 1225*) relates how Renaud, Count of Boulogne, created something of a sensation at the Battle of Bouvines in 1214 by wearing a whalebone crest resembling a pair of antlers. Whalebone hardly seems a suitable material for crests of the type shown in the *Eneide* and we are probably safe in assuming that these were made of parchment or cuir-bouilli, two materials which were undoubtedly used for this purpose from the second half of the 13th century onwards.

In addition to a crest, or instead of it, a crown or coronet was sometimes worn on the helm or coif by those of high enough rank. A simple silver or gold fillet (*circle*) was often worn by knights of all ranks (8).

Another type of helmet that has not yet been mentioned is the **chapel-de-fer** or **kettle-hat** (15th-16th century English *shapewe*). This was simply an iron hat with a brim that varied in width but



10 Details from the *Maciejowski Bible*, French, c. 1250. *Pierpont Morgan Library, New York*. Note (a) Kettle-hat with thongs for attachment; (b) padded arming-cap; (c) gamboised cuisses; (d) schynbalds.

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was usually fairly broad (10 ; 91). A similar helmet had been used in the Ancient World, and in its late Roman form continued to appear in illuminations and on carvings until as late as the second half of the 11th century, usually in conjunction with a kind of debased Roman armour. There seems to be little doubt that these later illustrations do not represent armour that was actually in use at the time but are simply attempts to maintain a Classical tradition in art. The medieval kettle-hat does not, in fact, seem to have been introduced until the end of the 12th century. From this period until well into the 14th century it is usually shown as a helmet similar in shape to the British 'tin hat' used during the two World Wars but constructed like a Spangenhelm and often drawn up into a small point at the apex. A number of 13th-century iron kettle-hats of this type have been excavated in Scandinavia, most of them being similar to the example illustrated at 91, although there are minor variations. In every case the skull is composed of a cross-shaped, domed plate with the spaces between the arms filled with separate riveted plates and with a separate brim riveted along the lower edges. The lower margin of the skull is pierced with a series of small holes to which the lining would have been stitched ; on each side, under the brim, is a flat hook for the attachment of the chin-strap. This last seems usually to have consisted of two thongs tied together under the chin (10, *a*).

The kettle-hat was, above all, the headpiece of the common soldier, probably because it was both easy and cheap to make in large quantities. But it was also used extensively by the knightly classes : for example, Joinville in his *Vie de St. Louis* describes how on one occasion in Jerusalem, having persuaded King Louis to remove his helm, he lent him his own kettle-hat so that the king could 'take the air' [*avoir le vent*].

It is probable that various types of **soft armour** were in use during the whole of the period covered by this chapter, although I have been unable to trace any definite evidence of this earlier than the second half of the 12th century. Surprisingly enough, neither does there seem to be any indication of the use of a special quilted garment under the hauberk before the same period, although one would have deemed something of the sort essential in view of the complete lack of rigidity of mail. Yet it can actually be shown that as late as the middle of the 13th century the hauberk was sometimes worn without any separate padding underneath, other than a quilted cap. The magnificent French MS. of c. 1250 known as the *Maciejowski Bible* (Pierpont Morgan Library, New York), for example, contains a number of illustrations

showing hauberks being put on and removed ; in every case the only garment worn underneath is a knee-length coloured shirt with tight-fitting, wrist-length sleeves (6). One can only assume that the hauberk itself and especially the ventail were fitted with some kind of lining.

Quilted defences were certainly in general use by the second half of the 12th century and many texts of this period refer to them. Three terms are used, **pourpoint**, **aketon** and **gambeson**, but in what way the garments they denote differed from each other it is difficult to determine. On the whole it seems likely that *pourpoint* was a general term covering any type of quilted defence and that *aketon* was a plain quilted coat usually worn under the armour. Gambesons, on the other hand, are often described in early inventories as being made of silk or some other rich material, decorated with embroidery and coats-of-arms, a fact suggesting that, sometimes at least, they were designed to be worn as independent defences or as surcoats. This view is supported by a number of texts that refer to the gambeson being worn over the aketon, the hauberk or, from the end of the 13th century, over plate armour. Unfortunately, there are also plenty of references to gambesons being worn under the armour and to aketons being worn independently, chiefly by the rank and file, and there are even a few references to decorated aketons. The answer to this rather confusing problem is probably that the terms were used very loosely and were to a very large extent interchangeable. For the sake of convenience the term *aketon* will be restricted here to the form of quilted coat worn under the armour or as an independent defence.

There are many illustrations of aketons in 13th-century illuminations and a particularly good series is contained in the *Maciejowski Bible* (6). They are for the most part shown being worn by foot-soldiers as their main body-armour. All are knee-length garments put on over the head like a shirt, quilted vertically and with straight or daggd lower edges. Some have tight-fitting, wrist-length sleeves, occasionally extended to form mufflers, and others have fairly wide sleeves with straight or daggd edges extending to just above the elbows. Most of them have high, stiff collars fastened on either side, some quilted and others shown as if made of plain cloth only but presumably containing some kind of solid lining. Many of these collars look as though they might be entirely separate from the aketon, but the details are not sufficiently clear for any definite opinion to be formed on this point. In a few instances two aketons are worn, the upper one, which should probably here be called a gambeson, without sleeves (6).



11 Arming-caps. Details of statue on the west front of Wells Cathedral, c. 1230-40



12 Arming-cap, presumably intended to support a helm. Detail of statue on the west front of Wells Cathedral, c. 1230-40

The aketon worn under the armour seems generally to have been of the long-sleeved type described above, although it is rarely possible to catch more than a glimpse of its edges in contemporary illustrations (13; 14; 23; 155). Also worn under the hauberk was a small quilted coif to which the later term **arming-cap** is now usually applied. In its normal form it was simply a quilted version of the ordinary civilian coif of the period, that is a close-fitting skull-cap equipped with two ear-lappets terminating in laces, which were tied under the chin (6; 10, *b*; 106). Two of the statues on the west front of Wells Cathedral (c. 1230¹⁰), however, wear a form of padded circular cap that projects slightly all round (11). One of these figures wears the cap over his mail coif (12), so it must in this instance have been intended as a support for the helm, but the outline of the coifs of certain effigies of the same period suggests that such caps were sometimes worn underneath (4).

From not later than the second quarter of the 13th century quilted thigh-defences (gamboised cuisses) were worn under and, with increas-

ing frequency over, the chausses (10). An excellent illustration of a man donning his gamboised cuisses in the *Maciejowski Bible* (6) shows that they were rather like a pair of vertically-quilted waders that have been cut off immediately below the knees. They were usually secured at the lower edges by a thong knotted round the leg below the knee or by a strap and buckle. A few illustrations show gamboised cuisses decorated with embroidery.

Before concluding this chapter some reference must be made to the once highly controversial problem of '**banded**' mail. It is unusual to find a naturalistic representation of mail in medieval art. To save time and trouble the artist usually adopted one or other of a number of conventional methods of presenting the general impression of a structure of interlinked rings. The most common of these consisted simply of a series of short, vertical, curved strokes arranged in parallel rows which were occasionally separated by a single fine; all the strokes in any one row curved in one direction, all in the next row in the opposite direction (4; 6; 10; 23). There are, however, many illustrations of mail dating from between the second quarter of the 13th century and the third quarter of the 14th which have the rows of strokes divided from each other by pairs of parallel lines (14; 18) or, again, on a very small number of English effigies, by narrow ribs. Where the inside of the mail is shown it is invariably depicted in the same way. The general effect is of a series of narrow horizontal bands threaded through the mail at regular intervals, hence the term 'banded-rmail'.

Many attempts have been made to reconstruct banded-mail but there is no space to discuss them here. Most of them are wildly impractical or else fall down on the essential requirement that they should present the same appearance on both faces. The most feasible suggestion, made by the late J. G. Waller,⁶ is that banded-mail was simply ordinary mail reinforced by thongs threaded through alternate rows of rings. In support of his theory Mr. Waller pointed out that the collars of certain comparatively modern Oriental hauberks are treated in this way. But the purpose of this is clearly to make the collar sufficiently rigid to stand up round the neck, and there seems to be no reason why such qualities in the rest of the hauberk should have been thought desirable. •The thongs would not have made the hauberk any stronger, and their tendency to stretch or contract by varying amounts would hardly have been conducive to a satisfactory and comfortable fit.

No reference to anything that can be interpreted as banded-mail has yet been noted in any contemporary document and no examples are known to survive. It seems likely, therefore—and this is the view

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now generally held—that it was simply another conventional method of representing ordinary mail. In support of this view it is worth noting that when a piece of ordinary mail is stretched, as it would be when worn, the effect produced is that of horizontal rows of links divided from each other by narrow bands (28).

2. The Introduction of Plate Armour

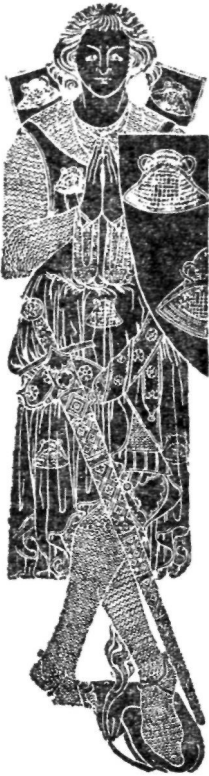
c. 1250-e. 1330

SOME reference has already been made to the fact that both lamellar and scale armour seem to have been used in Europe from Roman times onwards. The lamellar construction, which was Eastern in origin, appears to have been confined almost exclusively to Eastern Europe, but it was used to some extent in Scandinavia from Viking times until the second half of the 14th century (see p. 62), no doubt as a result of trading contacts with Russia. Scale armour, on the other hand, although it was used extensively in Eastern Europe until as recently as the 17th century (296-7), was also used almost everywhere else in Europe, if to a more limited extent. Illustrations of this construction are comparatively rare, but a few examples can be found at most periods from the 8th until the early 17th century, for example on the Bayeux Tapestry (see pp. 23-4) and a late 13th-century figure on the interior of the west front of Rheims Cathedral (see also p. 154).

Despite the above, no evidence has yet been produced to show that armour made of large, fairly rigid plates was used in medieval Europe before the last quarter of the 12th century, although there must have been armourers technically capable of making it at a very much earlier date. In fact, there appears to have been no general use of plate before c. 1250, when illustrations of solid defences for the legs, elbows and knees begin to appear, nor was it adopted universally until the third decade of the 14th century. Until c. 1300 most illustrations of knights show them wearing armour differing v^ery little from that described in the previous chapter (13), except that from c. 1270 the coif is usually shown separate from the hauberk (see p. 46).

The earliest medieval reference to plate armour I have been able to discover occurs in the account given by Giraldus Cambrensis of the Danish attack on Dublin on May 16th, 1171. In this the Danes are described as being clad in either long loricas of mail or *laminis ferreis arte consutis*.¹ This armour of iron laminae may well have been of the coat-of-plates construction described below, but admittedly it could also be lamellar or scale armour. More certain evidence is provided by Guillaume le Breton's account of the fight between Richard, Count of

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13 Brass of Sir Robert de Setvans, 1306. *Chartham, Kent*. Note the gamboised cuisses, to which the poleyns are attached, and the lower edge of the aketon above. See also 155

Poitou (later King Richard I of England), and William de Barres.² In this each combatant is described as wearing a plate of worked iron (*fera fabricata patena recocto*) beneath the hauberk and aketon. Even if we assume that le Breton, who died in c. 1225, slightly antedated this piece of armour, the passage provides definite evidence of its use not later than the beginning of the 13th century. The extent to which it was used at this early date is unknown, but the very lack of evidence upon this point suggests that it was comparatively rare.

Another early body defence which should probably be included under the heading of plate-armour was the **cuirie**. This term first appears in texts of the third quarter of the 12th century and occurs frequently until the middle of the 14th. It was almost certainly synonymous with *cuirass* (also *curate*, *quiret*), a word first recorded as *paires de cuiraces* in an inventory of the effects of Eudes, Comte de Nevers, drawn up after

his death in 1266,³ and one that remained in use as long as armour did. The exact form of this defence at the period under discussion is unknown but it is possible, from a variety of sources, to establish certain facts about it : it was a defence for the trunk, worn under the surcoat but over the hauberk; it was invariably made of leather; it was sufficiently rigid for the guard-chains (see below) for the helm and sword to be attached to it, a fact which suggests that it was made, not of ordinary leather, but of cuir-bouilli; it was sometimes reinforced with metal plates; it was sometimes lined with fabric, and sometimes had arm-defences of leather or (quilted ?) cloth.

We know that by the 15th century the terms *cuirass* and *pair of cuirasses* had come to denote the metal breast- and back-plates taken together as a single unit. It seems likely, therefore, that, with *cuirie*, they were originally applied to a similar defence made of cuir-bouilli. Something of the sort is depicted on two English effigies of the third

EARLY ILLUSTRATIONS OF PLATE

quarter of the 13th century, one in Pershore Church, Worcestershire (17), and the other formerly in the Temple Church, London. On each, the armholes of the surcoat are wide enough to reveal apparently one-piece breast- and back-plates, joined by straps at the side, worn beneath. There is no indication of the existence of such a construction in metal before the end of the 14th century, thus it seems probable that the defence represented on the effigies was made of cuir-bouilli. If so, it may well be the cuirie, although, of course, there is no certainty about the matter.

It may be seen from the above that the early history of medieval plate-armour is more than a little obscure. Fortunately the picture becomes clearer after c. 1250 with **the real beginning of the continuous development of plate**. The first visible indication of this is the increasing appearance in contemporary illustrations of reinforcing plates (poleyns) attached to the knees of the chausses or, more frequently, of the gamboised cuisses. These are quite small at first but after c. 1270 become large and hemispherical, completely covering the front and sides of the knees (14). Disc-shaped plates (couters) attached to the elbows of the hauberk are found as early as c. 1260 on the effigy of William Longespée the Younger (Salisbury Cathedral), but I have been unable to trace any other examples earlier than the first decade of the 14th century. Gutter-shaped shin-guards, buckled over the chausses, also appear in the middle of the 13th century (10), but they are rarely illustrated before the second decade of the 14th. So rarely indeed that one suspects that they were generally worn under the chausses. A curious type of chausse, apparently made of cloth studded with small metal discs, is shown on a drawing of c. 1250 in the British Museum⁴ attributed to the school of Matthew Paris.

The development of plate defences for the limbs was, no doubt, accompanied by a corresponding development of armour **for the trunk**, although this is usually obscured by the all-enveloping surcoat. We know, however, that the surcoat was itself sometimes reinforced in front with rows of fairly long, rectangular plates, set vertically and riveted to the inside of the fabric. The only 13th-century illustration of this arrangement known occurs on the carved figure of a sleeping guard on a German Resurrection group of the third quarter of the century in the Provinzial Museum, Hanover (18), but examples dating from the first three decades of the 14th century are found in Italy and Scandinavia.

A variation of the reinforced surcoat, probably a development from the one just described, is illustrated on a statue of St. Maurice in

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14 Brass of Sir John de Creke, c. 1325-30. *Westley Waterless, Cambridgeshire*. Note the four layers of garments and defences on the body: coat armour, coat of plates, haubergeon and aketon

Magdeburg Cathedral. This is usually dated to c. 1250, but there seems to be no reason why it should not be as much as fifty years later. The saint is shown as a mail-clad warrior with a surcoat made of an oblong length of cloth pierced in the centre for the head like a South American poncho, and which hangs down at front and back to just above the knees. From either side of the front piece two flaps, wide enough to cover the trunk from hip to armpit, extend backwards round the body like a girdle and are joined together by straps and buckles over the centre of the back piece. Carved along the upper and lower edges of the girdle and extending across the chest are two rows of rivet-heads which can only be interpreted as fastenings for large oblong lining plates. Similar rivet-heads on a level with the shoulders in front indicate that other plates extend up the chest almost to the base of the neck. The mail coif, although separate from the hauberk, appears to be attached permanently to the surcoat.

A cloth or leather garment lined with metal plates was the most widely used type of body-defence throughout the 14th century. Modern students usually refer to it as the coat of plates, but at the time when it was in general use it was known variously as *pair of plates*, *hauberk of plates*, *cote à plates* or simply *plates*. From the last decade of the 13th century, references to it become increasingly common until after c. 1320 there is hardly an inventory, account or will in which armour is mentioned that does not include one or more examples. It was usually worn between the surcoat and hauberk, and for this reason can rarely be identified in illustrations until the third decade of the 14th century, when the front of the surcoat was shortened. Even then it is usually only possible to see the studded lower edge in front (14), and no adequate idea of the construction of the whole garment can be

obtained. **For** reasons given in the next chapter there can be little doubt, however, that the main line of development stemmed from the form shown on the Magdeburg St. Maurice. By c. 1330 it had been adopted generally, and after this date illustrations of knights armoured entirely or almost entirely in mail are rare.

During the last years of the 13th century, references to all types of plate armour become increasingly common, although the materials from which it was made were not always metal. It is clear that the armourers were experimenting with a **variety of materials**, and baleyn (whalebone), horn and, above all, cuir-bouilli are all mentioned in addition to iron, steel and latten (a form of brass). As early as 1285 a French MS. mentions whalebone gauntlets,⁵ and similar references occur frequently until well into the second half of the 14th century. The exact construction of these gauntlets is unknown, although they were probably no more than ordinary gloves lined or covered with small scales of whalebone.

The first references to **gauntlets made of metal plates** appear in the last decade of the century. One of these, an ordinance issued to the armourers of Paris in 1296, contains the following :

*Que nuls ne face gantelès de plate que les plates ne soient estaimées ou coivrées et qu'il ne soient pas couverts de basaine noire ne de mesguiez et que desous les testes de chacun clou ait un rivet d'argent pel ou d'or pel ou autre rivet quel que il soit.*⁶

It is clear that the gauntlets referred to in this passage were made in the same way as the coat of plates, that is of iron plates riveted to or between layers of fabric. The plates were tinned or coppered to prevent rusting, since it would of course have been impossible to remove the cover for cleaning. In form the gauntlets probably resembled those shown on a number of illuminations and effigies of the first quarter of the 14th century, which are not unlike the old-fashioned motoring gauntlet with a flared cuff. Characteristic examples, with the small oblong plates or the rivets securing them clearly indicated, are shown on an effigy at Wimborne Minister, Dorset, and on a figure depicted in a MS. *Légende de St. Denis* presented to King Philippe of France in 1317⁷ (156). On an effigy of c. 1310-20 at Furness Abbey, Lancashire, the back of each cuff is reinforced by a gutter-shaped plate applied to the outside; while on the effigy of Sir Richard Whatton (c. 1330) at Whatton Church, Nottinghamshire, the backs of the hands and the short close-fitting cuffs are covered with horizontal, overlapping lames. It was from this last form that the so-called 'hour-

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glass' gauntlet of the second half of the century was to develop (see p. 66).

The last decade of the 13th century also saw the introduction of a plate defence for the chin and neck (**gorget*** or **bevor**). A French document of 1294, for example, lists no less than sixty *gorgières de plate* along with other plate armour,⁸ while the de Nesle inventory of 1302, also French, includes two *gorgerets de plate*.⁹ The earliest illustration of this defence I have been able to trace appears on the Spanish effigy of Don Alvaro de Cabrera (M.M.), which was executed shortly before 1314¹⁰ (149). It consists simply of a solid cylindrical collar extending to just below the nose and carrying a short cape that just covers the points of the shoulders. This last is covered with rosette-shaped studs, presumably the heads of rivets securing plates on the inside. A similar bevor with the plates clearly marked on the cape is depicted on an effigy of c. 1330 at Coulommiers, France, while scoop-shaped bevors sloping up to a point in front and apparently made in one piece are shown in an English MS. of 1326-7¹¹ (16, C). This second form, usually worn with a kettle-hat, is frequently illustrated in Spanish art throughout the whole of the 14th century but is rarely found elsewhere. Despite the absence of representations, references to plate bevors are, however, common in 14th-century texts everywhere in Europe.

Although **poleyns and shin-guards of plate** were in use at least as early as c. 1250 I have been unable to find any references to them in documents earlier than the end of the 13th century. From c. 1300 they are mentioned with increasing frequency, but illustrations of shin-guards are rare until after c. 1310. The usual English term for the defence for the lower leg at this date was *jamber*, but the French term *greave* occurs occasionally from c. 1370 onwards and after c. 1400 completely supplants the former. There can be little doubt that both words were frequently used to refer to both the simple shin-guard and to the type of defence that completely enclosed the leg. As early as 1302, however, in the de Nesle inventory, the shin-guards are called *demi-greaves*, and after c. 1330 they are frequently referred to in English texts as *schynbalds*. For the sake of consistency I propose to confine *greave* to the defence that completely encloses the leg and to use *schynbald* to denote the simple shin-guard. Similarly I shall follow the usual medieval and Renaissance practice of referring to the armour for the whole leg, including the thigh and sometimes the foot, as the *legharness*.

* Not to be confused with the later gorget or collar of which it was no doubt the precursor (see p. 96).

Schynbalds, at first worn strapped over the chausses, remained in constant use throughout the 14th century and are found occasionally in the 15th century. Nevertheless the de Nesle inventory already includes *ii harnas de gaumbes de coi les grèves sont clos*, and a number of French and Spanish effigies of the second decade of the century (e.g. the de Cabrera effigy mentioned above) show greaves of this type. The normal construction, which remained in use until the 17th century, was for each greave to be made of a front and a rear plate hinged together down one side—usually the outside—and fastened with straps and buckles on the other (217-34). Similar greaves are shown on a few English and German statues and illuminated MSS. of the third decade of the century, but they only become common after c. 1330.

Both greaves and schynbalds were usually accompanied by gambouised cuisses or cuisses of plates to which the globular poleyns were attached (13; 15). **Solid plate** cuisses are, however, shown on a number of Neapolitan effigies dating from the 1320's, though the fact that they and the accompanying greaves are covered with a pattern of scrollwork suggests that the originals were made of moulded leather. A figure on the canopy of the tomb of Aymer de Valence (*ob.* 1324) in Westminster Abbey also shows what appear to be solid plate cuisses, but the details are so small that they cannot be interpreted with certainty. Whilst there appears to have been no general adoption of this form of cuisse before c. 1350, it is worth noting that the Westminster figure illustrates another feature not common before c. 1340, namely a small, fan-shaped *side-iving* on the outside of each poleyn.

Plate defences for the feet (*sabatons**) were apparently introduced in the second decade of the 14th century, although they are rarely illustrated before c. 1320. They occur, for example, on the de Cabrera effigy of c. 1314, where they are shown as pointed shoes studded with rosette-headed rivets, presumably indicating a coat-of-plates construction. A number of plates from sabatons of this type were excavated on the site of the Battle of Wisby (1361) in Gottland (N.H.M.S.). The most popular form of sabaton, however, consisted of a series of overlapping, horizontal lames, shaped to the pointed shoe of the period and covering the top of the foot. One of the earliest illustrations of this form occurs on the brass of Sir William Fitzralph at Pebmarsh, Essex (c. 1323) (15), but after this it is shown frequently, except in Germany, where plate sabatons are rare until after c. 1340. The plates were

Solerei appears to have been used in England rarely, if at all, before Meyrick, nor, as he implied, was *sabaton* restricted to the broad-toed form of foot-defence introduced at the end of the 15th century. It was in constant use from the 14th to the 17th century.

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presumably riveted to a leather lining and secured to the shoe by laces (*aiglets*, *points* or *arming-points*) knotted through pairs of holes on top or by straps passing under the foot.

The development of **plate defences for the arms** lagged slightly behind that of the leg-defences but otherwise it followed very similar lines. Before discussing this, some reference must be made to the rather involved problem of terminology. Throughout the 14th century the usual English word for the complete plate armour for the arm, generally including the shoulder-defence, was *bracer*.^{*} After c. 1330



terms for the individual parts of the bracer are also found, viz. *vambrace*, *rerebrace*, *coûter* (see p. 39), *spaulder* and, at the very end of the century, *pauldron*. The first two words connoted the upper and lower parts of the bracer respectively, but it is difficult to determine their precise use. If they were used with any consistency—and this is doubtful—the only conclusion that can be drawn from the very conflicting evidence is that when the bracer was made in two separate parts the lower one was called the *vambrace* and the upper one, including the shoulder-defence, the *rerebrace*, irrespective of where the division between the two parts came. In practice this meant that from the last quarter of the 14th century onwards *rerebrace* usually meant the shoulder-defence and *vambrace* the remainder of the arm-defence, including the *coûter*. After c. 1450 *rerebrace* tends to disappear and thereafter *pauldron* is used for the shoulder-defence. The word *spaulderf* also referred to the shoulder-

^{*} *Bracer* was also used to denote an archer's wrist-guard.

^t It is clearly an anglicised form of *espallier*, a term found frequently in English documents from the early 13th to the early 14th century. It seems at first to have denoted some form of padding for the shoulder, for an inventory of armour belonging to Falk de Breauté made in 1224 includes amongst linen armour an 'espallier de nigro Cend[alT]'.¹²

15 Brass of Sir William Fitzralph, c. 1323. *Pebmarsh, Essex*

defence, but presumably in a more restricted sense than *rerebrace* and not including the plates for the upper arm. For the sake of consistency I shall use *vambrace* only in its later sense to denote the complete arm-defence excluding the shoulder. Where necessary I shall follow the modern practice, based partly on 16th- and 17th-century usage, of referring to the parts above and below the couter as the upper and lower cannons of the vambrace respectively. *Spaulder* I shall confine to the small, cap-like form of the shoulder-defence (181 ; 184) and *pauldron* to the large form that extends over the chest and back (189-216).

Couters of the type shown on the Longespée effigy at Salisbury (p. 39) begin to appear with increasing frequency in contemporary art from c. 1300 onwards. The English MS. of c. 1300 known as *Queen Mary's Psalter*¹³ also shows similar plates attached to the points of the shoulders of the hauberk. Some late 13th- and early 14th-century texts mention bracers of leather but, as far as I can discover, no illustration exists from which their form can be identified. Similarly, it is impossible to do more than guess at the form of the *bras de fer et i coûtes* which is included in the de Nesle inventory of 1302, although, if it was anything more than a mail sleeve with coûter attached, it was presumably similar to the early vambraces described below.

For the earliest illustration of full plate arm-defences so far noted we must turn again to the effigy of Don Alveró de Cabrera. On this the tight-fitting sleeves of the surcoat are studded with rivets in a manner similar to that on the bevor, the chest and the sabatons, presumably indicating that they are lined with plates. The earliest true vambrace, which appears in illustrations during the second decade of the century (15), consists of two gutter-shaped plates and a cup-like coûter strapped over the sleeve of the hauberk. Each vambrace was often accompanied by two disc-shaped plates (*besagews*) secured by laces to the front of the shoulder and the outside of the elbow respectively. This form is found as late as 1347 on the Hastings brass at Elsing, Norfolk, but is rare after c. 1335. Indeed, the Creke brass at Westley Waterless, Cambridgeshire (14), shows that lower cannons formed of two, presumably hinged, plates were already known by c. 1325-30. These are accompanied by upper cannons and couters of the type described above but are themselves worn underneath the loosely-fitting sleeves of the hauberk.

Before leaving the armour for the arms and shoulders the curious shoulder appendages known as ailettes must be mentioned. These are often illustrated in the art of most European countries during the period c. 1275-c. 1350, except Germany, where they are rare. They are usually shown as rectangular plates—although other shapes do occur

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(16)—laced to the sides of the shoulders and projecting up on either side of the head.* It used to be thought that their purpose was to protect the head and neck against cuts from the side, but this view can no longer be accepted. The many references to ailettes found in early 14th-century texts show quite clearly that they were invariably made of flimsy material quite unsuited for any defensive purpose. It is now generally held that their chief role was heraldic, but they seem, on occasions, to have been purely ornamental. This view is supported, to quote one example only, by the following entry in the inventory of the effects of Piers Gaveston, dated 1313: *Item, autres divers garnementz des armes le dit Pierres, ovek les ailettes garniz efretez de perles.*¹⁴

Of the **other equipment for the body** the chausses, aketon and gambeson remained unchanged throughout the period covered by this chapter, and the hauberk and surcoat showed only minor modifications. After c. 1250 German illustrations of armour often show the coif made separate from the hauberk and with its lower edge prolonged to form two oblong lappets that were fastened down to the chest and back, sometimes over the surcoat. During the last quarter of the 13th century the separate coif came into use generally,† but the lower part now usually flared out to form a short cape which extended almost to the points of the shoulders (15). This new type of coif no longer required a ventail but, as we know from an apparently unique late 13th-century example in the Royal Scottish Museum, Edinburgh, had a vertical slit at the back closed by lacing.

With the introduction of plate gauntlets at the end of the 13th century, mail mufflers tend to disappear although they are illustrated frequently down to c. 1330 and were used as late as 1361 at the Battle of Wisby. A few illuminations of the first quarter of the 14th century show separate mail gauntlets with flaring cuffs but these are rare. In the absence of mufflers the hauberk usually had fairly close-fitting, wrist-length sleeves or, after c. 1325, fairly wide sleeves extending to the middle of the forearms (14). After c. 1320 there was a tendency for the hauberk to shrink upwards at the sides and to curve down in front to just above the level of the knees (14). This shorter form was increasingly known by the diminutive of *hauberk*, *haubergeon*.

From the beginning of the century the collar of the hauberk is often shown standing up round the neck, and we know from later examples

* The ailettes are often shown behind the shoulders on effigies and brasses (13), presumably because only in this position are they visible from a frontal view.

† The older form attached permanently to the hauberk did, however, survive until well into the 14th century.

that this was effected by thickening the rings so that the mesh became semi-rigid. Throughout the 14th century one finds references in inventories to mail collars known as *pizaines* and, while their exact form is uncertain, it is not unlikely that these were semi-rigid neck-defences of the type just described but made separate from the hauberk.

The surcoat remained almost unchanged until c. 1325, except that after c. 1250 wrist-length sleeves are shown occasionally, for example on the paintings formerly in the Painted Chamber, Westminster. They appear more frequently after c. 1310 but are not common until the second half of the century, chiefly in France and the areas under French influence. In England from c. 1325 the surcoat was usually cut short in front at the level of the hips but at the back extended to the knees. At the same time the upper part was made to fit more closely above the waist and was usually laced or buttoned down the sides (14). It was occasionally fitted with rudimentary sleeves that just covered the tops of the shoulders. This form of surcoat, to which Meyrick erroneously gave the name *cyclas*, was the usual one in England until c. 1340 but was less common on the Continent.

During the whole of the period under review the main knightly headpiece remained the great helm, worn over the cervelliere or bascinet and the mail coif. After c. 1250 the upper part of the helm was often tapered slightly. In the last quarter of the century the taper became more pronounced until the crown had become almost conical, usually truncated at the top (80—1), but sometimes terminating in a blunt point (82). During the same period the helm was deepened until it touched the shoulders and projected down over the top of the chest in a point. A few illustrations of round-topped helms also occur in the late 13th and early 14th centuries, but they are less common than the conical type. The rivets securing the upper and lower parts of the helm together also held a lining in the crown. We know from illustrations of this feature on effigies dating from c. 1330 onwards, and from the fragments surviving in the Black Prince's helm at Canterbury Cathedral, that it consisted of a deep leather band cut into a series of triangular gussets pulled together at the top with a cord.

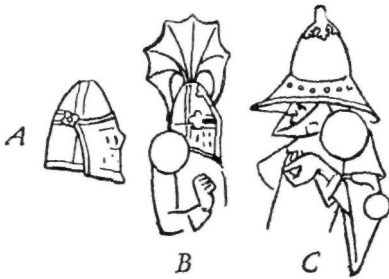
As early as 1298, in the will of Odo de Roussillin, there is a reference to a *heaume a vissere*.¹⁵ The late Charles Buttin suggested that at this date the term *vissere* could only have denoted the fixed face-guard that formed an integral part of the ordinary helm of the period. In fact, there is no reason why it should not refer to a movable visor for, during the period c. 1300-40, illustrations of helms with such a feature are not uncommon (16, A). They are usually closely similar in form to the

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normal conical or round-topped helm, except that part or the whole of the front is pivoted to the skull on each side and can be raised upwards. When seen with the visor raised these helms look very much like bascinets (see below) and it is not clear which term should be applied to them. Also during the period c. 1300-40 the ordinary helm was occasionally fitted with a pivoted reinforcing-bevor which covered the face-guard below the sights.

The **crest** remained in use throughout our period (16, *B*), especially in Germany, where it usually took the form of two great curved horns (26). Although no examples of this early date are known to survive there can be little doubt that they were made of moulded and painted leather mounted on a leather cap that was attached to the helm by laces. The helm from Bolzano illustrated at 81 has pairs of holes pierced at intervals round the crown for these laces. During the first quarter of the 14th century the crest was generally adopted throughout Europe, but it seems only rarely to have been worn on anything other than the helm. It remained in use until well into the 16th century. A wide variety of devices was used and the effect, particularly *en masse*, must have been extremely impressive. The lower part usually ended in a flowing cloth *mantling*.

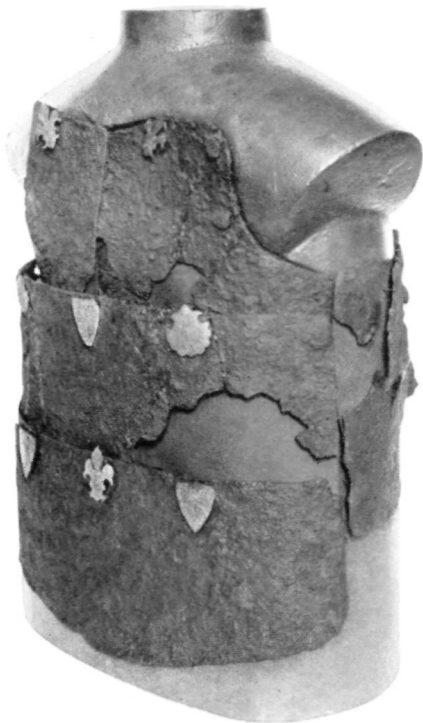
From the end of the 13th century the helm, sword and dagger were often equipped with **guard-chains**. These were at first attached to the girdle of the surcoat, but after c. 1300 they were with increasing frequency fastened by rivets or staples to the breast of the cuirie or the coat of plates (23). A helm of c. 1300 from Schloss Madeln, Switzerland (Liestal Museum), has a cross-shaped piercing in front to the right of the central ridge into which fitted a toggle on the end of the safety-chain. This was the usual arrangement for the greater part of the 14th century, and similar piercings occur, for example, on the Black Prince's helm at Canterbury (84), which also retains a fragment of its chain. When not required for immediate use the helm was often carried slung over one shoulder by the chain.



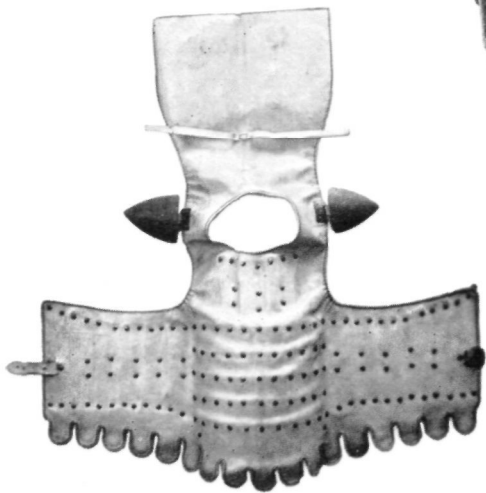
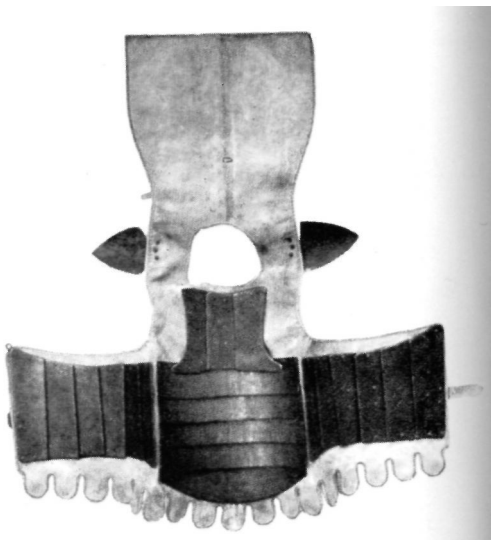
16 Details from MS. treatise of Walter de Milemete, 1326-7, *Christ Church, Oxford*.

- (A) Visored helm
- (B) Crested helm and circular aillettes
- (C) Kettle-hat and bevor

Before discussing the **later de-**



20 Coat of plates (No. 7) from the site of the Battle of Wisby (1361). The coats of arms on the copper mounts are possibly those of the Flemish family Roorda. *National Historical Museum, Stockholm*



21, 22 Modern reconstruction of a coat of plates (No. 1) from Wisby. *National Historical Museum, Stockholm*

velopment of the cervellière it would perhaps be as well to mention again that the term was at first synonymous with *bascinet*. It was also used on occasions to refer to the arming-cap or the helmet fining : a French document of 1309, for example,¹⁶ orders that a bascinet should be fitted with a *cervellière souffisante*. Modern students, however, usually confine the term to the small hemispherical metal skull-cap described in the previous chapter and, to avoid needless confusion, I shall do the same here. For the same reason I shall use *bascinet* exclusively to refer to the characteristic conical helmet of the 14th century described below and to its immediate predecessors and successors.

The cervellière, worn either under or over the coif, remained in constant use throughout the period covered by this chapter, although after c. 1300 it began to be supplanted gradually by the early forms of the bascinet. From c. 1310 to c. 1330 it is occasionally shown with a low keel-shaped comb, presumably embossed in the metal, but it otherwise shows little or no variation from, for example, the form depicted in the *Maciejowski Bible* (5). It seems frequently to have been attached permanently to the coif by a lace or strap threaded through the mail round the temples (15).

The term **bascinet** is uncommon in texts dating from before c. 1300, but thereafter it is found with great frequency until c. 1450 and then more rarely until c. 1550. The earliest versions of the helmet to which the term was applied over the greater part of this period first appear in illustrations of the first decade of the 14th century (e.g. in *Queen Mary's Psalter* and the *Légende de St. Denis* mentioned above). Three forms occur:

(1) A small globular helmet that curves down on each side to cover the ears (68). It is often shown fitted with a movable visor, sometimes similar in form to that on the visored helm and extending to below the chin and sometimes covering only that part of the face not protected by the coif.

(2) A deep conical helmet, arched over the face and extending down almost to the shoulders at the sides and back. It is occasionally equipped with a nasal and frequently with a pivoted visor. When the latter is closed it is often impossible to distinguish this form of bascinet from the visored helm (16, A) from which it was almost certainly derived.

(3) A tall, conical helmet with a straight lower edge at a level only just above the ears. This is a taller version of the conical helmet in use from the 10th to the 13th century, although it is by no means certain that it was derived from this. The old conical helmet tends to disappear from illustrations during the second half of the 13th century and I have been unable to trace an illustration of the new form earlier than the

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second decade of the 14th century (e.g. the effigy said to be that of Sir Robert du Bois at Fersfield, Norfolk). Yet the two types of helmet are so similar that it is difficult to believe that they are quite unconnected.

All three types of bascinet appear to have remained in use until c. 1340-50. Inc. 1325, however, a developed form of No. 1 appeared with a pointed skull and with its lower edge coming well below the ears on either side. One of the earliest illustrations of this form, with a fluted skull and an ornamental applied finial, occurs on the de Creke brass already mentioned (14). Its later development is discussed in the next chapter.

The kettle-hat also remained in general use throughout the period under discussion in more or less the same form as that described in Chapter I. After c. 1320 it is often shown with a tall skull, sometimes almost the same shape as that of a bascinet (16, C). The old Spangenhelm construction tends to disappear after this date also and the kettle-hat henceforth seems usually to have been made either in one piece or of a few large plates riveted together.

After c. 1300 the practice of wearing the helmet over the coif became increasingly common, although the cervellière continued to be worn in the old manner until the 1330's. The low form of bascinet and, more rarely, the tall form with a straight lower edge were also occasionally worn under the coif (e.g. a figure of c. 1330 carved on the West Tower of Freiburg Cathedral). As early as c. 1260 it had apparently become the practice to replace the coif by a mail tippet—like a coif with the top removed—attached to the inside of the helmet. The de Nevers inventory of 1266, for example, includes *i bacinnet à gorgière de fer* which, at this early date, can hardly have been anything other than a cervellière with a mail tippet attached to it and hanging down to protect the neck. But this is an exceptionally early reference and the tippet seems to have been rare before c. 1300. Indeed, it is probably safe to say that it was uncommon before c. 1320, although the fact that its external appearance in contemporary illustrations is exactly similar to that of a coif worn under a bascinet makes it difficult for us to be certain of this. In England, during the 14th and early 15th centuries, the tippet was usually called the *aventail* and in France the *camail*, although both words were occasionally used in both countries.

To conclude this chapter reference must be made to an apparently unique illustration of a mail coif worn with a visor. This occurs in an English drawing of c. 1300 in the British Museum¹⁷ and shows a mail-clad knight with a metal mask, shaped like the front of a helm, fastened over the face-opening of his coif. The method of attachment is not clear but it was presumably by means of laces.