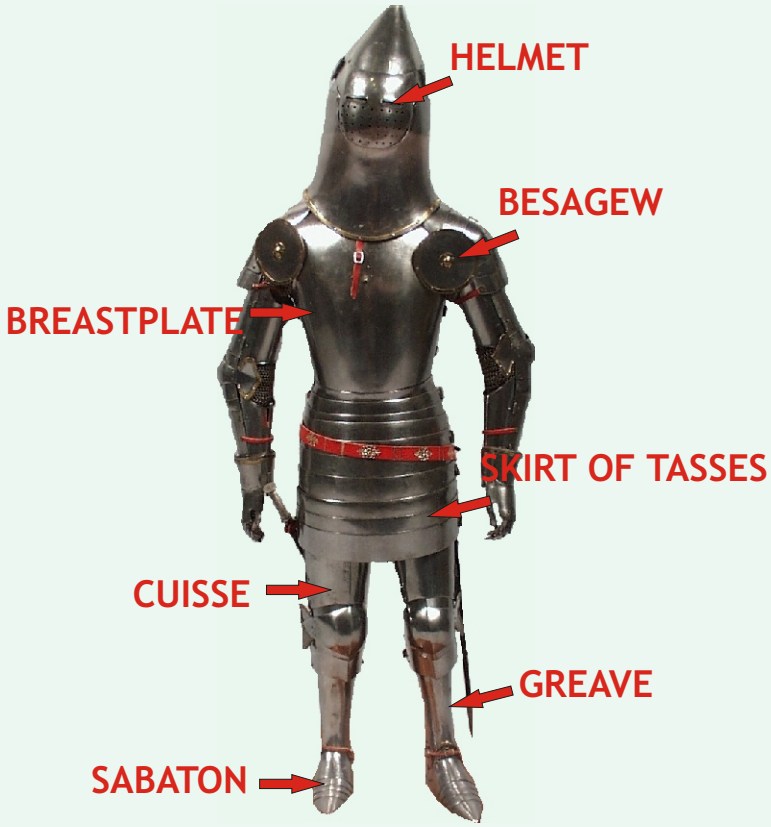
Hands On Learning
with Reading Museum Service

KNIGHT IN ARMOUR H134



In the Bible King David begins his career in the royal court as an armour bearer. He soon had to fight the giant Goliath:

A champion named Goliath, who was from Gath, came out of the Philistine camp. He was over nine feet tall. He had a bronze helmet on his head and wore a coat of scale armour of bronze weighing five thousand shekels; on his legs he wore bronze greaves, and a bronze javelin was slung on his back. His spear shaft was like a weaver's rod, and its iron point weighed six hundred shekels. His shield bearer went ahead of him.

These events may have taken place about 1000 BC. Clearly at this date heavy armour was a well developed technology. No one knows when the idea of protecting the body with toughened clothing during a fight began, but it is very ancient. The armour shown on this model is typical of the late Middle Ages - the fifteenth century.

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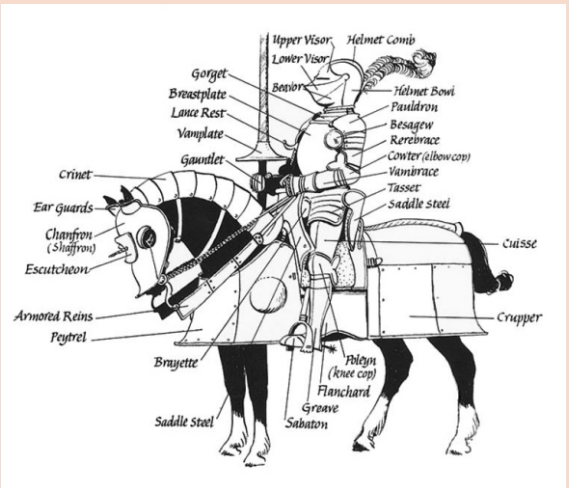
At the time of the Norman Conquest professional fighters on both the Anglo-Saxon and Norman side wore coats of mail - interlocking iron or steel rings. The photograph on the right shows a scene from the Museum of Reading's copy of the Bayeux Tapestry, in which mail coats and other weaponry are being carried aboard William's invasion fleet. Coats of mail are surprisingly heavy and each of them is carried strung on a pole between two people.

Gradually small additional plates of steel were added to the mail to protect vulnerable areas. By the fourteenth century plate armour, in which most of the body is covered by plates of steel, became commonplace. Mail continued to be used to protect those joints which could not be adequately protected by plate, such as the armpit, crook of the elbow and groin. A full set of armour of this kind had to be made to fit the individual for whom it was intended, much as a suit is measured, cut and stitched by a tailor to fit its owner. The aim was to create an armoured shell which was both sturdy and flexible. Neither of these qualities could be sacrificed. It is untrue, for example, that knights had to be winched onto their horse and were useless when knocked off. Such unwieldy armour would have been a liability. On the other hand, it is certainly true that wearing a full suit of plate armour was exhausting and vision was often restricted by narrow slits designed to protect the eyes.



A suit of armour was made from many individual pieces, each of which had its own name. Much of the terminology was in French, as this was the language of the English upper classes until the fifteenth century. The terminology also varied over time and from place to place. The photograph of the armour on page 1 has been labelled with a few of the more common terms. The diagram on the left gives more of this specialised vocabulary.

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Quite a lot of armour has survived and we also know about how it was worn from contemporary illustrations and from the tombs and memorial brasses for knights which are widespread in English churches. The illustration on the right shows a rubbing of a memorial brass for Sir Laurence Fyton in the parish church at Sonning, near Reading. Sir Laurence died on 29 March 1434 and it is probable that the armour he is shown wearing is typical of the fashion at that date.

His armour is very similar to that worn on the model in this box. However, figures on memorial brasses and tombs are shown with their face exposed. They are seldom dressed in a complete or closed helmet. The one puzzling feature on the model is the helmet, which would not have allowed its wearer to turn his head. The usual helmet in the fifteenth century was called a bascinet. A very fine example can be seen below left. These helmets might have restricted the wearer's vision, but they usually allowed their wearer to turn to the left and right.



It may be that the model is shown wearing a jousting helmet. Charging at an opponent with a lance, the wearer only needed to look straight ahead. In jousting it was more important that the eyes were protected from flying splints of wood when lances broke. This happened to Henry II of France in 1559 who was killed when a sliver of wood jabbed through his eye slit and pierced his brain. Some knights used a 'frog lipped helm' (right) in jousting contests. This piece of equipment was fixed to keep the wearer looking straight ahead through an eye-slit that was angled to be effective only when the rider was leaning forward. At the moment of impact, however, the head was pulled back so the projecting lip deflected pieces of shattered wood from entering the eye-slits.



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The effectiveness of plate armour against arrows and crossbow bolts is much debated. Crossbow bolts could be fired with much more force than arrows from a longbow. They were, however, cumbersome to reload (although not more so than early muskets). Longbows could be fired more rapidly, although the impact of their arrows was less. Archers and crossbowmen can be seen in the picture (right) of the Battle of Crecy, 1346.

English archers famously halted armed French knights at the battle of Agincourt. However, the arrows they fired need not have killed to be effective. At the time of Agincourt, a typical suit of armour had a mass of between 30 and 45 kg and was made of wrought iron, which is rather soft. The thickness of the armour varied according to the part of the body being protected. The thickest armour was up to 4 mm thick and the thinnest about 1 mm. Experiments (not using live-targets!) suggest that arrows could easily penetrate 1 mm of armour. They did not penetrate far enough to damage vital organs, but they would still cause agonising pain and disable their wearer. A blast of arrows, even if it couldn't be maintained for more than a few minutes, was clearly very effective. It is thought that Henry V's 5,000 archers fired about 400,000 arrows in eight minutes. Incapacitated knights could be finished off by poking knives through gaps in the armour or hitting them with pollaxes. The photograph on the left shows a smashed skull recovered from the site of the Battle of Towton (1461), probably caused by a pollaxe.



On the other hand, in hand-to-hand fighting a good set of armour greatly increased the chances of survival. The expense of such equipment meant that most troops were only lightly armoured. A fully armoured knight could take blows which would fell most of his lightly armed opponents.



Plate armour continued in use into the sixteenth century. The photograph on the right shows cavalry armour from this period. Although very similar to that used in earlier times, the days of such armour were numbered. Early firearms were not more effective than arrows, but gradually gun technology became more deadly and plate armour became confined to jousts and ceremonial occasions.