



EYEWITNESS BOOKS



CASTLE

Discover the mysteries of the medieval castle and see what life was like for those living within

EYEWITNESS  GUIDES

CASTLE





Retainer's badge with mulberry-tree emblem



Stone corbel showing lady wearing wimple



Walrus-ivory gaming counters



Bronze strainer or skimmer



Bone comb



German bronze aquamanile or water jug



Boar badge of retainer of Richard III



Medieval leather shoes



Medieval musician playing hornpipe



Medieval peasant dressed for work in the fields

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CASTLE

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GEOFF DANN



Ceramic tiles from Tring, England



English pendant belonging to castle retainer



Italian silver medallion with arms of Cresci family



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Stone figure of St. George



15th-century silver-gilt spoon

Walrus-ivory counter showing burial scene



Late 14th-century table knife



Early 14th-century silver-gilt belt mount



A DORLING KINDERSLEY BOOK

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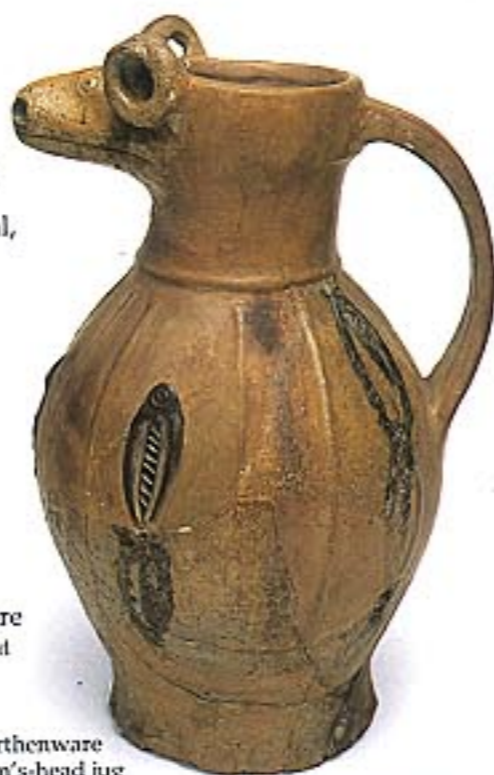
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12th-century candlestick from northern Germany



Earthenware ram's-head jug

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Flemish 15th-century covered wooden bowl (or mazer)

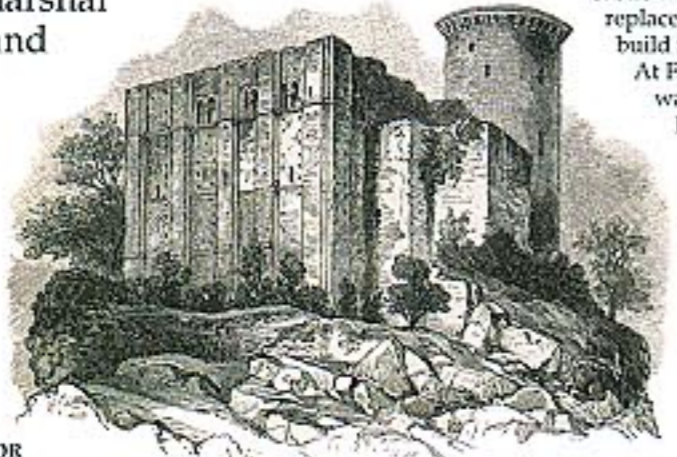


What is a castle?

MANY OF THE GREAT fortifications of the Middle Ages are still standing today, often dominating the surrounding countryside. Why were they originally built and who lived in them? A castle was the fortified private residence of a lord. The lord could be a king or a lesser baron but in either case the castle was a home as well as a stronghold. A mark of lordship, it was safe against the cavalry charge of knights, so safe that it could withstand a continuous assault or siege by an enemy. A castle was also a community, with many staff: the constable or castellan looked after the buildings and defences; the marshal was in charge of the horses, garrison, and outside servants; the chamberlain oversaw food and drink; and the steward ran the estates and finances.



TALL TOWERS
San Gimignano, Italy, is an extreme example of what happened when rival families clashed. Here 72 tall castles were built in the same town, of which 14 survive today.



OLD AND NEW
Castle walls or buildings were often replaced, to make repairs or to build in new defensive features. At Falaise, France, the castle was given a square tower by Henry I in the 12th century and a round one by King Philip Augustus in the early 13th century.



ANCESTOR
At Mycenae, Greece, a strong fortified palace was built in about 1250 B.C. The Lion Gate guards the entrance. Such a state-run building is not a true castle, even though it has large stone fortifications.

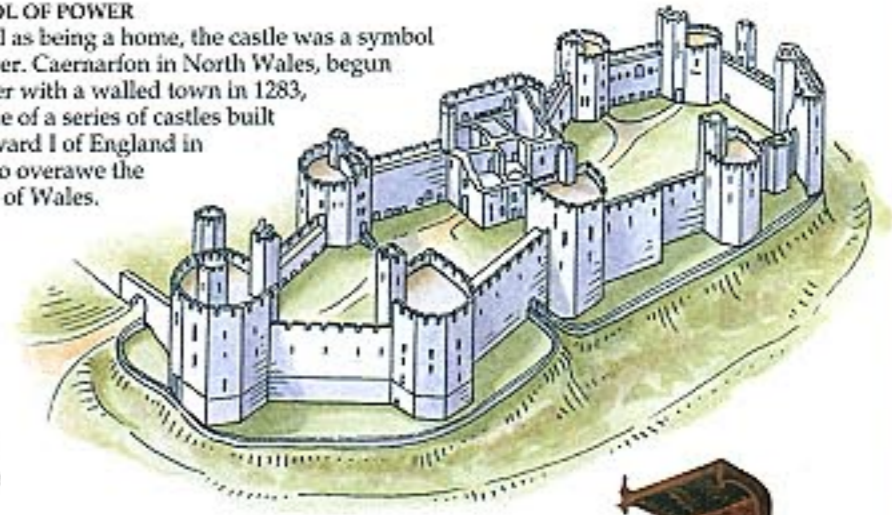


IRON AGE
The large earthworks at Maiden castle, England, are actually the remains of a Celtic palisaded settlement built on a New Stone-Age site. It was thus more like a fortified town than a castle. It was captured by the Romans.



MASTER
This early 14th-century picture shows a king instructing a master mason, who was in charge of the castle's construction. He carries a set square. Some kings built numerous castles but only lived in them occasionally.

SYMBOL OF POWER
As well as being a home, the castle was a symbol of power. Caernarfon in North Wales, begun together with a walled town in 1283, was one of a series of castles built by Edward I of England in order to overawe the people of Wales.

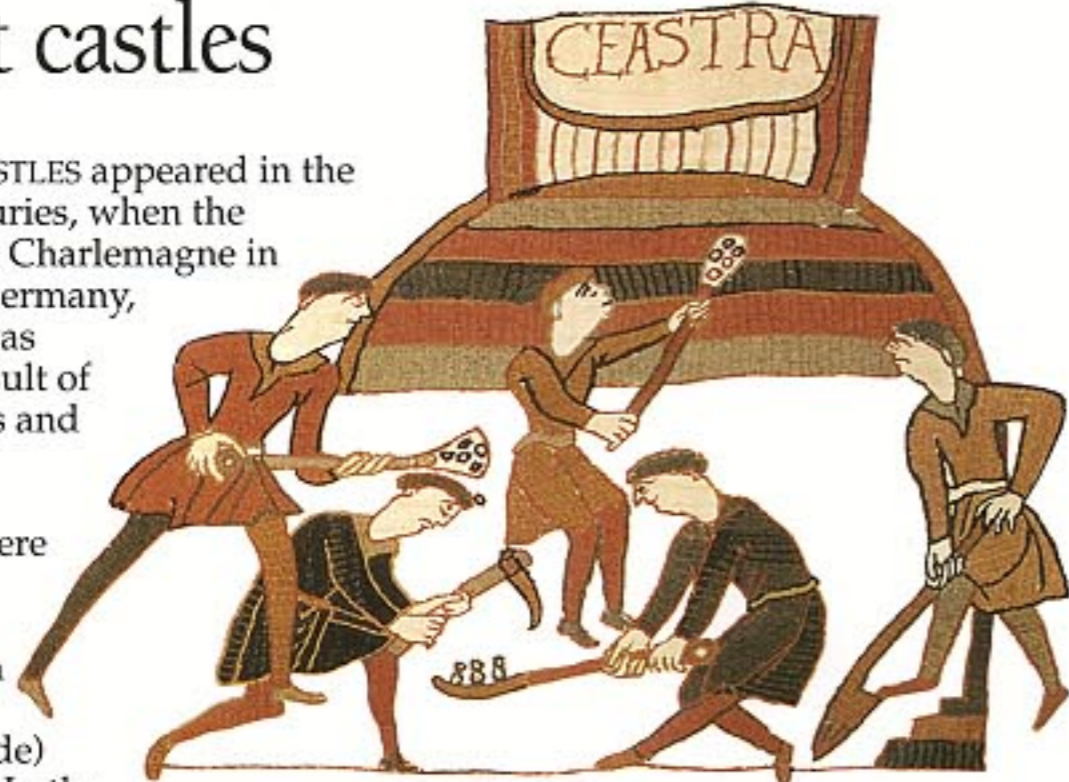


MEETING PLACE
Castles were often the scenes of important meetings about state affairs. This picture shows the meeting of Richard II and his uncle the Duke of Gloucester that took place at Pleshey castle.

The first castles



THE EARLIEST CASTLES appeared in the 9th and 10th centuries, when the empire created by Charlemagne in modern France, Germany, and North Italy was collapsing as a result of raids by peoples such as Vikings and Magyars. Lords built castles for protection and as bases for their soldiers. Most of these castles were built of earth and timber. The simplest was the ringwork: an enclosure surrounded by a ditch with an earth rampart inside it. A strong timber fence (or palisade) was built on top of the rampart. In the 11th century motte and bailey castles became popular. An earth mound (or motte) was built next to a yard (or bailey).



BUILDING A MOTTE
The Bayeux Tapestry, probably made between 1066 and 1086, shows a motte being built at Hastings, England, by the Normans. The motte is being made of rammed layers of soil, although no evidence of this method has been found in the real motte at Hastings.

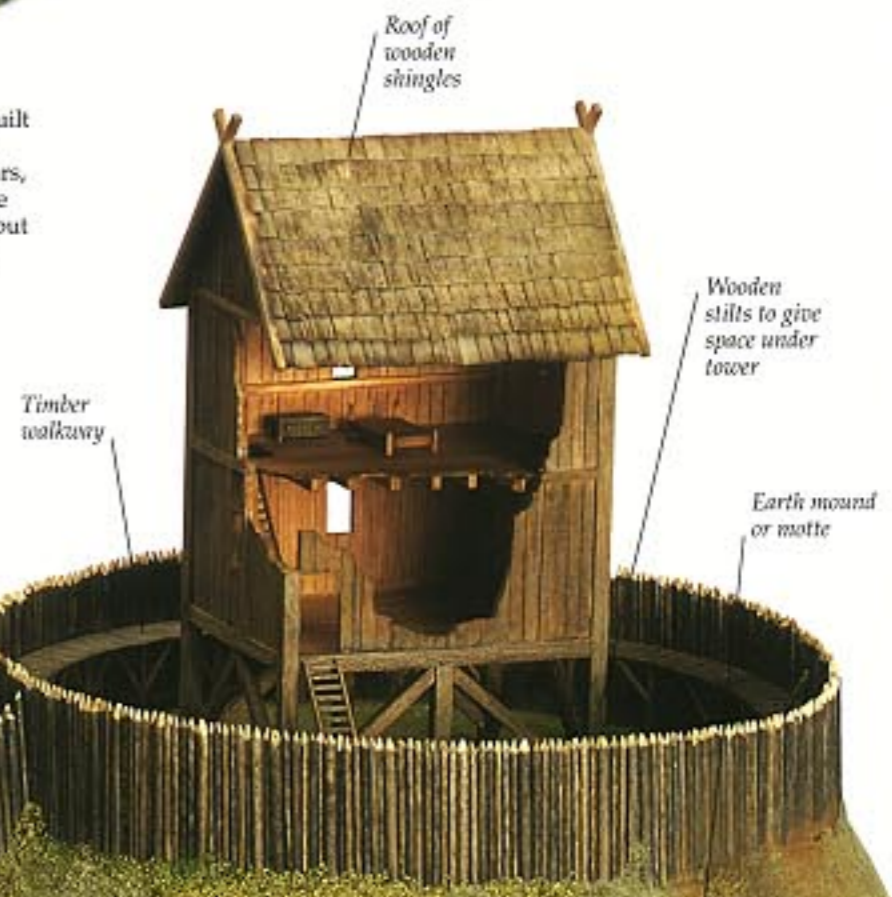
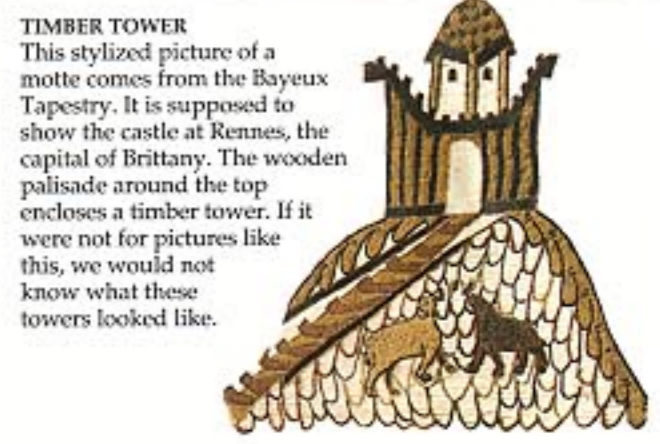


LAST REMAINS
A motte with two baileys was built at Yelden, England, probably soon after the Norman conquest. The ditches were fed by a local stream. Often a grassy mound like this is all that remains of an early castle.



PLESHEY
The large motte and bailey at Pleshey, England, was built by the Normans soon after 1066. This type of castle could be erected in a matter of months rather than years, which was ideal when the Normans were in a hostile country. Pleshey castle has one motte and one bailey, but sometimes there were two mottes or two baileys.

MOTTE AND BAILEY
These castles were increasingly built in the 11th and 12th centuries. There was a courtyard, or bailey, protected by a ditch and palisade and with an entrance gate often with a lifting bridge, a drawbridge, or even a timber gate tower. Within the bailey were stables and workshops, a well, and perhaps a chapel. The motte was the final refuge. Many mottes were only about 5 m (15 ft) high, but some were twice that size. The tower on top was usually of wood – stone ones were often too heavy for artificial mounds. Some towers had many rooms, but if there was only space for a watchtower on the motte, a great hall might be built in the bailey.



The great tower

DURING THE TENTH CENTURY lords began to build castles out of stone. A large stone tower could become the main military and residential building of a castle. Because they needed skilled masons to plan and build them, and were expensive and slow to put up, few such towers were built until the 11th century. They are now often known as keeps, but in their day they were called great towers or donjons. The Normans liked great towers with massively thick stone walls, and built several after their conquest of England in 1066. Many more were built in the next century. They were stronger than walls of wood and did not burn. Attackers had to use other ways to destroy them, such as chipping away at the corners with picks, or digging tunnels beneath (undermining) the foundations to weaken them. Later round or many-sided towers had no sharp angles and gave defenders a better field of fire.



PRISON
Great towers had many different uses. Here the Duke of Orleans, captured by the English at the Battle of Agincourt in 1415, awaits his ransom. He is held in the White Tower, in the middle of the Tower of London.



HOARDINGS
The octagonal tower at Provins, France (built in about 1150) is shown here with wooden hoardings (pp. 28–29) that were added later.



SHELL

As stone defences became more common, the wooden palisades around the top of a motte (pp. 8–9) were sometimes replaced with stone walls for added strength. Structures like this are now called shell keeps. This ring-work is at Restormel, Cornwall, also has low stone walls and provides a roomy courtyard within the walls.

Zig-zag decoration, typical of buildings of the 12th century

KEEPING WARM
In wooden buildings the fire was made in an open hearth in the middle of the floor. But with a stone tower fireplaces could be built into the thickness of the wall. The flue passed through the wall to the outside and carried much of the smoke away from the room.



GREAT HALL
One floor of the great tower of Hedingham Castle was used as the great hall, in which the lord and his household lived and ate. To light the hall, large alcoves were let into the thickness of the walls. Doors in some of the alcoves lead to lavatories or rooms (mural chambers) let into the walls. The level above has a mural gallery, set within the wall, which runs right around the hall.

Window in alcove



Double windows provide more light



ROUND HEAD
The windows at Hedingham have round arches typical of the style called Romanesque or Norman.

Narrow opening to stop the entry of arrows



MANY-SIDED TOWER
The 12th-century castle at Orford, England, is polygonal. Instead of four sharp corners the builders experimented with shallower angles. These, together with round towers, helped guard against undermining.

Flag of castle owner



Wall walk (now lacking battlements)

HEDINGHAM CASTLE

The great tower at Hedingham, England, was built in about 1140 by Aubrey de Vere. It is not a large keep but still has the interior strengthened by an arch on the first and second floors. The doorway was originally protected by a stone forebuilding, but only part of this has survived.

Stair turret, also used as a watchtower

Finely cut facing stone (ashlar)

Quarters for the lord's family

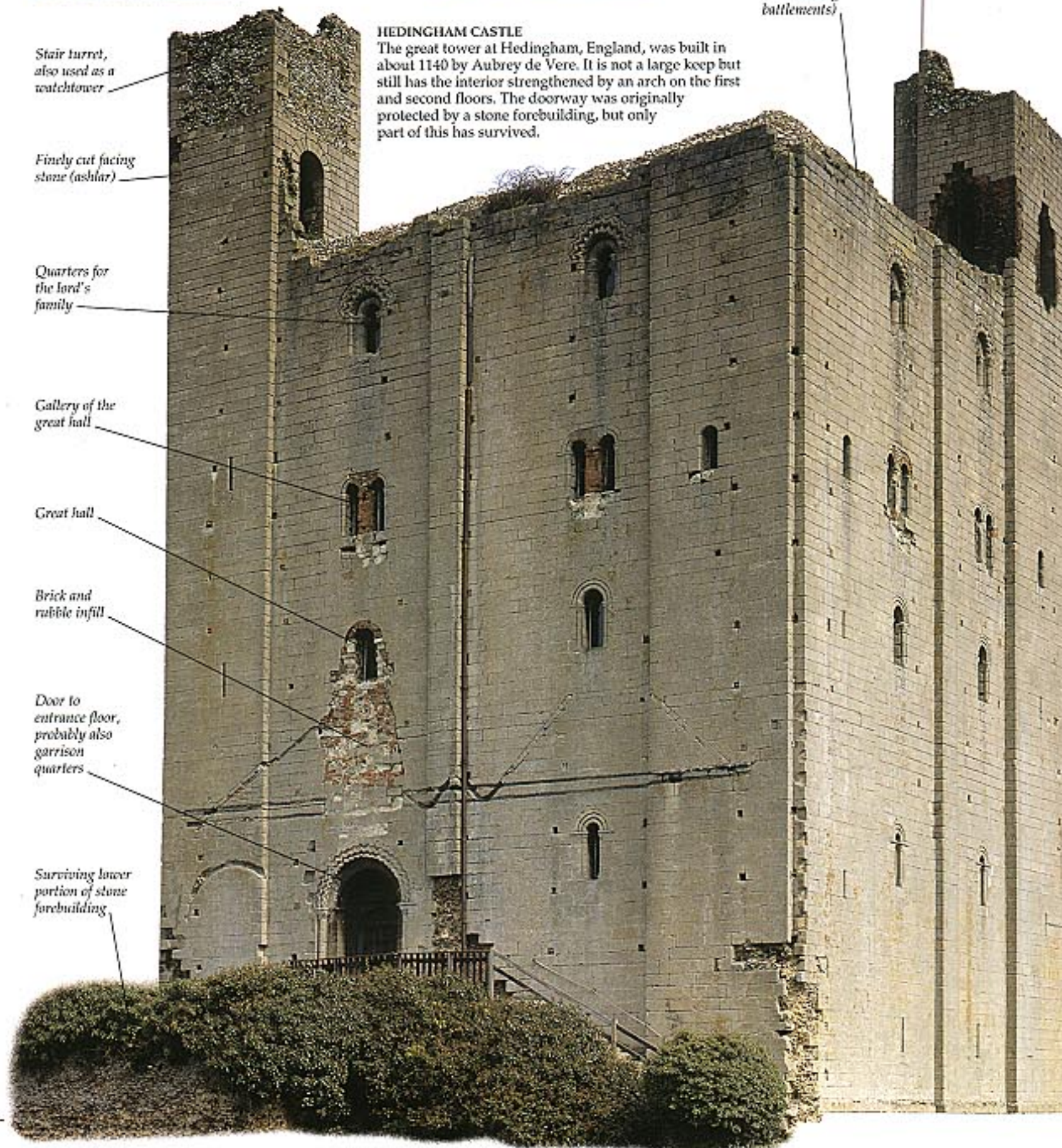
Gallery of the great hall

Great hall

Brick and rubble infill

Door to entrance floor, probably also garrison quarters

Surviving lower portion of stone forebuilding





CONQUERING KING Edward I was a great builder of castles in North Wales.

Concentric castles

FROM THE MID 13TH CENTURY castles were built with rings of stone walls one inside the other. These are called concentric castles. The outer wall was fairly close to and lower than the inner, sometimes so low that it seemed no more than a barrier against siege engines. But it meant that archers on the inner walls could shoot over the heads of those on the outer, bringing twice the fire power to bear on an enemy. If besiegers broke through the outer wall, they would still be faced with the inner wall. Sometimes towers could be sealed off, leaving the enemy exposed on the wall-walks of the outer wall. In older castles the great tower and curtain wall were sometimes given an outer ring of walls, making three separate lines of defence.



GATEHOUSE

This is the gatehouse on a dam wall which leads to the outer eastern gate at Caerphilly castle. The twin holes above the archway are for the chains of a lifting bridge. Behind this were a portcullis and double-doors. Notice the "spurs" which jut out to strengthen the base of each tower.



Round corner tower

Outer curtain wall

Putlog holes to take timber supports for hoardings

Gatehouse

Crenellations

Inner curtain wall

Arrow loop

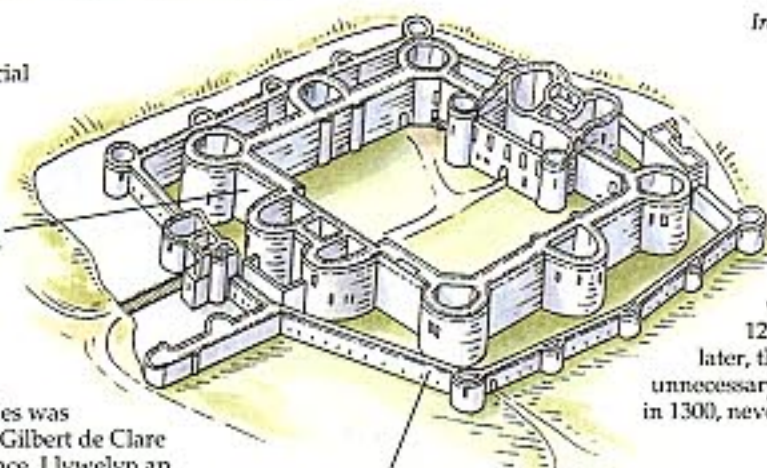
Window with metal bars



Leaning tower

Artificial lake

WATER DEFENCES
Probably inspired by Kenilworth castle, England, Caerphilly sits in a huge artificial lake, formed by damming a stream. This prevented any attempt to tunnel under the walls and forced siege engines to keep their distance.



High inner wall

Low outer wall

CAERPHILLY

Caerphilly castle in South Wales was mainly built between 1268 and 1271 by Gilbert de Clare during his struggles with the Welsh prince, Llywelyn ap Gruffudd. It is the earliest regular concentric castle in Britain and the largest castle in Wales. The western gatehouse defends the outer walls. Behind it rise the higher inner walls with strong corner towers. The doors to the inner gatehouse from the wall-walk could be protected against enemies by portcullises.

LET THERE BE LIGHT

This is not an arrow loop but a window in Caerphilly castle, large enough to allow light and air through to the rooms inside. Even so, windows might have iron grilles to keep out intruders. Glass was rare, shutters being used in bad weather.



Iron grille

EDWARDIAN CASTLE

Edward I of England built many huge castles in North Wales to try and control the hostile Welsh. Beaumaris, built on the Isle of Anglesey, was the last. Planned during a revolt in 1294 which was put down two years later, the concentric defences became unnecessary and building stopped in 1300, never to be completed.

Castles on the Loire



Polychrome jug



Floor tiles



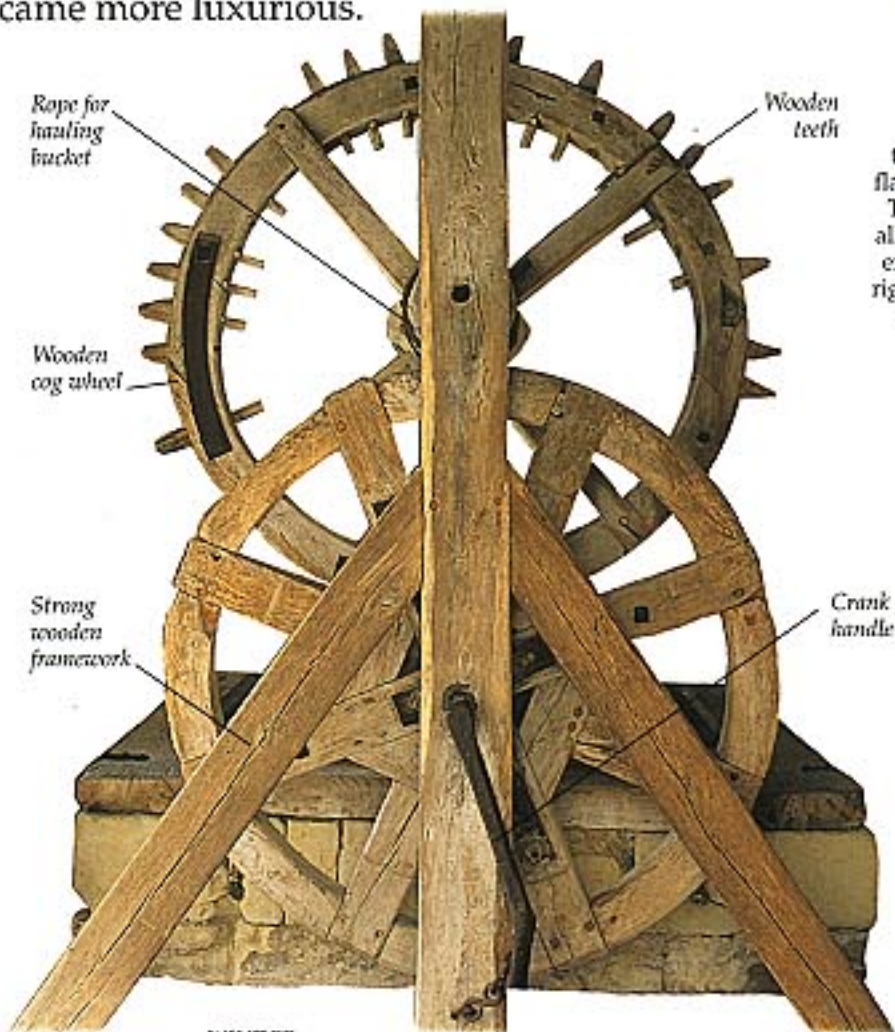
FRENCH TASTES
The 14th century polychrome (many coloured) jug is in typical French style. The floor tiles are from Saumur castle and bear heraldic pictures. The fleur-de-lis was used in French royal arms and became the symbol of the French royal house. It therefore appeared in the coats-of-arms of a number of related families.

MANY CASTLES were built along the River Loire in France. Doue-La-Fontaine, probably the oldest known keep, was one of the first. French castles developed during the reign of Philip Augustus (1180-1226) with powerful keeps, enclosures, round towers, and towers *en bec* (like a beak) on which the outward-facing side is drawn out like a ship's prow. Flying turrets jutted from walls without reaching the ground, and towers often had tall, conical roofs. In the 15th century, French castles became more luxurious.



ENTRANCE

Stone steps now lead up to the entrance at Saumur, which is flanked either side by flying turrets. The machicolations in the middle allowed materials to be dropped on enemies attacking the gate. On the right, a concave ramp enables goods to be dragged or barrels rolled up or down it.



Rope for hauling bucket

Wooden teeth

Wooden cog wheel

Strong wooden framework

Crank handle

SAUMUR right
Saumur Castle may have been begun as early as the 10th century but has been rebuilt several times. By the 15th century it had a fairy-tale appearance, complete with golden weathercocks, as shown in a picture from the Duke of Berry's book, the *Très riches heures*. It became a comfortable residence but was abandoned in the 17th century when the west wing fell down. It was then used as a prison and barracks but was later restored.

WINDER

At Saumur, water could be brought up from an underground well using these winding wheels. The wheels are made of wood and the teeth of one mesh with holes in the other.

LORDS AND LADIES

French nobles always felt themselves to be among the leaders of fashion and French courts were the centres of elegance. These lords and ladies of the turn of the 16th century are dressed in expensive robes.



THE VINEYARDS
The illustration of September from the Duke of Berry's *Très riches heures* of about 1416 shows the grape harvest in the vineyard below the whitewashed walls of Saumur castle. The lower windows have iron grilles to stop people getting in. The upper parts, although machicolated, have fantastic Gothic-style carved traceries. The barbican gate has both a small and large lifting bridge. On its left are small jutting latrine blocks which drop waste into ditches. To their left is the tall chimney of the kitchen, isolated to guard against spreading fire.



Stair turret

Well house



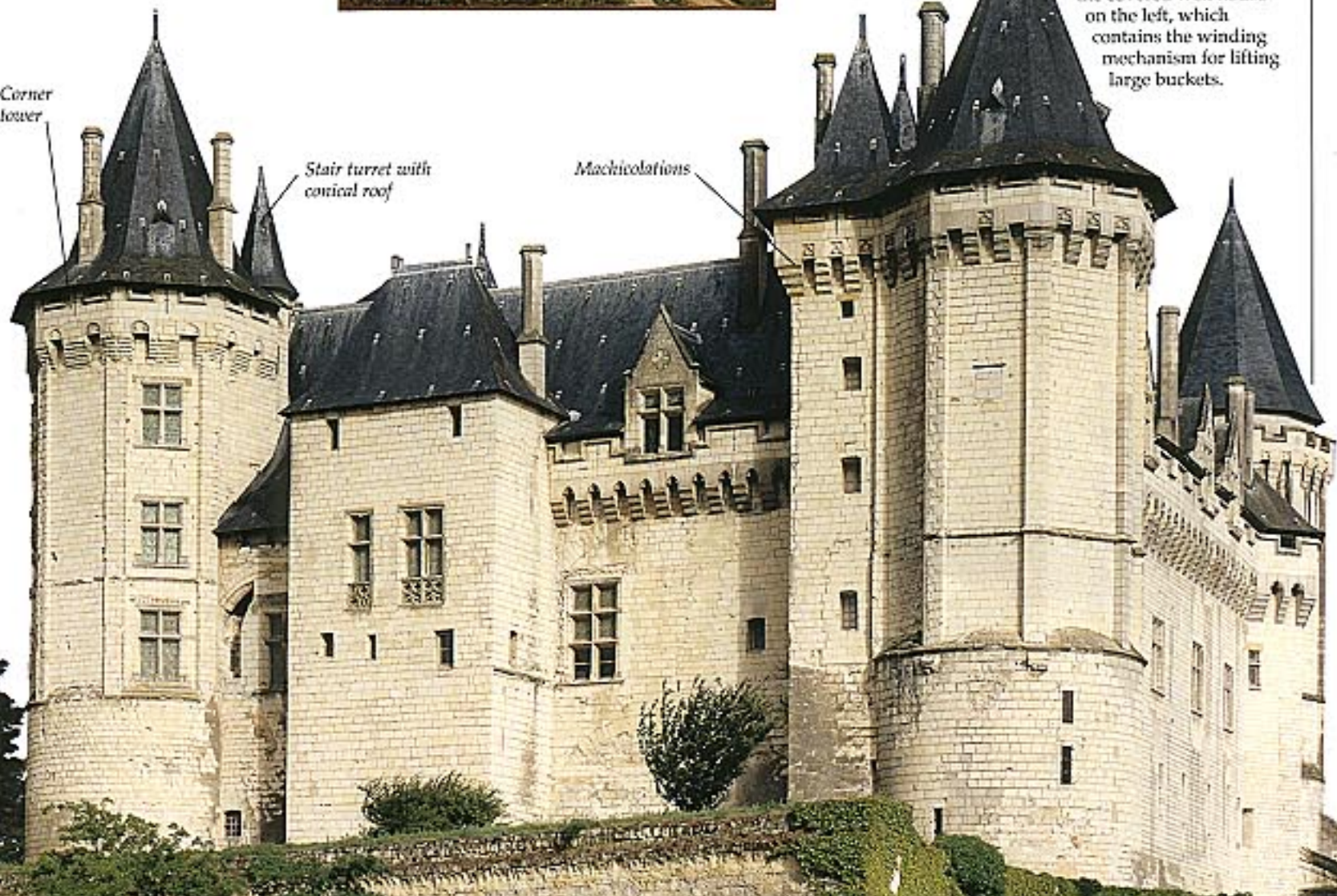
WELL

The courtyard at Saumur has a well with a large underground water tank. This tank extends under the covered well house on the left, which contains the winding mechanism for lifting large buckets.

Corner tower

Stair turret with conical roof

Machicolations

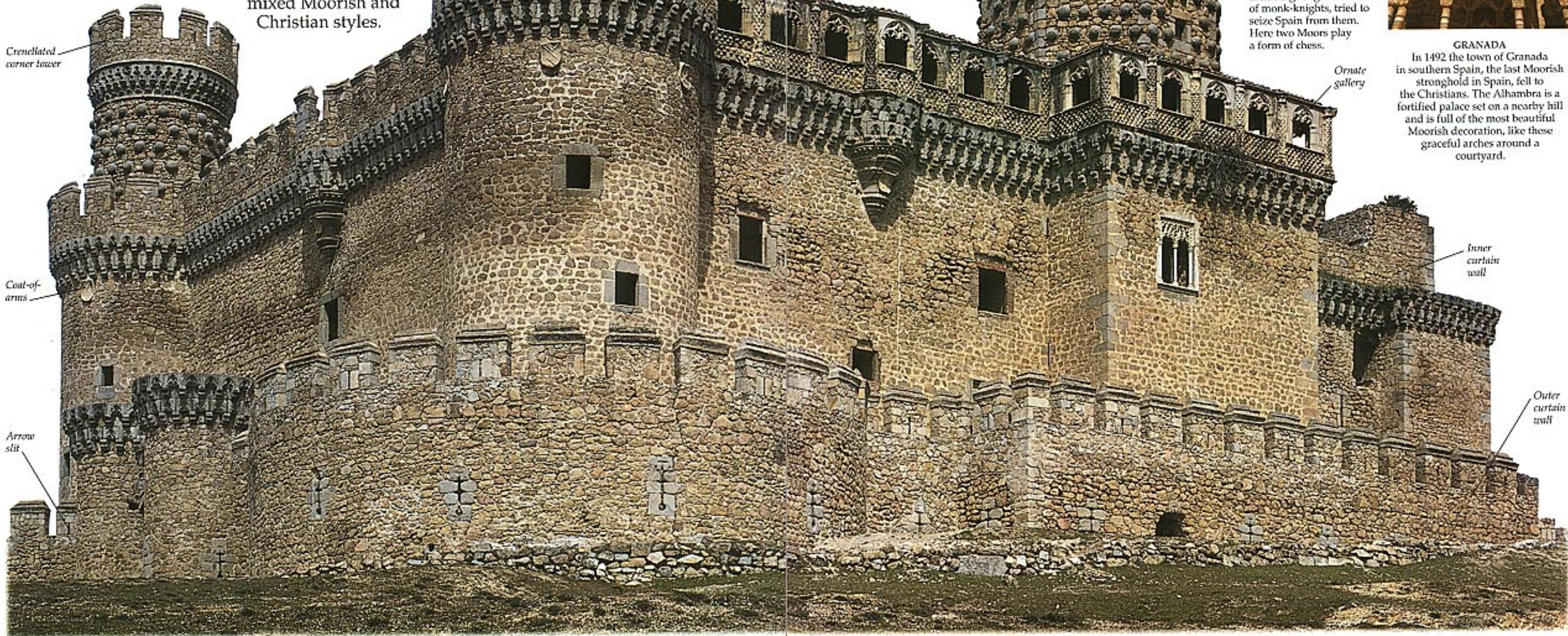


Castles in Spain



SHIP OF STONE
The Alcazar (palace) of Segovia, rebuilt in the early 15th century, is called a *gran buque* or "great ship" castle because of its long shape. The earlier keep was separated from the new tower-keep.

SPAIN HAD MUSLIM rulers (Moors) from A.D. 711 until the Christians took their last stronghold, Granada, in 1492. The Muslims used a different style from the Christians, for example building square or wedge-shaped towered *alcazabas* (garrison forts). Their enemies, the Christian knights, built *torres del homenaje* (tower-keeps) which were often round. From the 14th century on, the Christians pushed south; they built castles more like those found in England and France. Later still, conflicts between king and nobles led to a style of fortress that mixed Moorish and Christian styles.



Crenellated corner tower

Coat-of-arms

Arrow slit

Decorative false nichicolations mimic the real thing but have no gaps for dropping missiles

Ball decoration



A SIEGE
The wall-towers are packed with soldiers in this 13th-century Spanish wall fresco of the attack on Mallorca. On the right, a staff sling is about to be released. This was a sling attached to a wooden pole which extended the range its stone or lead bullet could be hurled.

CASTLE PALACE
Heavily influenced by Moorish styles, el Real de Manzanares, north of Madrid, was built in 1475 for the first Duke of the Infantado. It is almost square in shape and is surrounded with two sets of walls with round towers. In 1480 the 2nd Duke added the gallery, turret, and ball decoration.

Octagonal turret

Ornate gallery

Inner curtain wall

Outer curtain wall



ALL A GAME
The Moors lived in Spain after they conquered it in the 8th century. They established a civilization there which in many ways was well in advance of Christian Europe. From the 10th century Christians, including religious orders of monk-knights, tried to seize Spain from them. Here two Moors play a form of chess.



GRANADA
In 1492 the town of Granada in southern Spain, the last Moorish stronghold in Spain, fell to the Christians. The Alhambra is a fortified palace set on a nearby hill and is full of the most beautiful Moorish decoration, like these graceful arches around a courtyard.

Castles in Germany

IN WHAT IS NOW GERMANY, many princes and nobles lived in castles under the leadership of an emperor. As central control broke down in the 13th century many lesser lords also built castles, some as bases for robbery. German castle design was often influenced by the landscape. Many castles took advantage of the hills and mountains. Others were built along the banks of the Rhine. In flatter areas the *Wasserburg*, a castle protected by a wide moat, was seen. The Teutonic Order of monk-knights built brick castles like blockhouses, containing residential and religious areas set around a rectangular courtyard. Most large 11th and 12th-century castles were later given a surrounding wall with flanking towers.



POTTERY
This type of pottery is known as Rhenish ware because it was made in the Rhineland. It was often exported to other countries. These jugs would have been "thrown" on a potter's wheel and partly glazed to add colour.



HILLTOP HOME
Cochem castle sits on a hill overlooking the River Moselle. It was probably begun in about 1020. The tall tower or *Bergfried* is typically German. The castle was used as a toll station, and there was a chain to bar the river.



WAY IN
The entrance to the castle of Pfalzgrafenstein is guarded by a wooden portcullis sheathed in iron. Instead of moving up and down slots within the gate passage, the portcullis is set against the wall and slides through slots cut in stone brackets. Above the lifting chains are the curved arches of machicolations. On the right of the gate is an opening defended by a wooden shutter.



LONG OCCUPATION
Schloss Mespelbrunn at Spessart, Bavaria, began as a medieval castle and was rebuilt in the 16th century to suit the taste for more comfort. Because the castle sits in a huge moat, its builders could put large windows in the outer walls.



ISLAND CASTLE
The five-sided tower of the Pfalzgrafenstein was built as a toll-station on an island in the Rhine by King Ludwig I of Bavaria in 1327.



HOME COMFORTS
The latrine or privy has a wooden seat to give added comfort.



Gan ports

Window

Wooden boarding for defence

Seventeenth-century bastion

THE ENCLOSURE

This view from the tower of the Pfalzgrafenstein shows the domestic buildings set against the inner side of the enclosure walls. A covered wooden gallery runs alongside these buildings. In the middle is one of the circular turrets which covers the angle where two walls meet.



A CASTLE RE-USED

The hexagonal enclosure of the Pfalzgrafenstein was added between about 1338 and 1342 to create a turret fortress, a type of castle typical of western Germany. Useful even after the end of the Middle Ages, it was strengthened further in 1607, when one end was given a protruding bastion.



LION JUG
The aquamanile was a type of metal or pottery jug filled at the top and with a spout to pour water for washing hands at mealtimes. Different forms were made, including jugs in the shape of knights on horseback. This German copper-alloy lion has a man sitting astride its back, pulling its ears.



FLOOR TILE
This tile came from the Marksburg. It shows how lords tried to brighten up what must have been rather cold and uncomfortable rooms.

LOOK TO HEAVEN
The painted ceiling of the chapel in the Marksburg gives some idea of the type of interior decoration used. Like many German castles, this one had small, homely rooms rather than great halls.



GROWING CASTLE
The central tower of the Marksburg, near the Rhine in Germany, dates from the early Middle Ages and has gradually been surrounded by later defences. It has small flying turrets in French style, but the arched friezes rising above the walls are typical of the Rhineland.

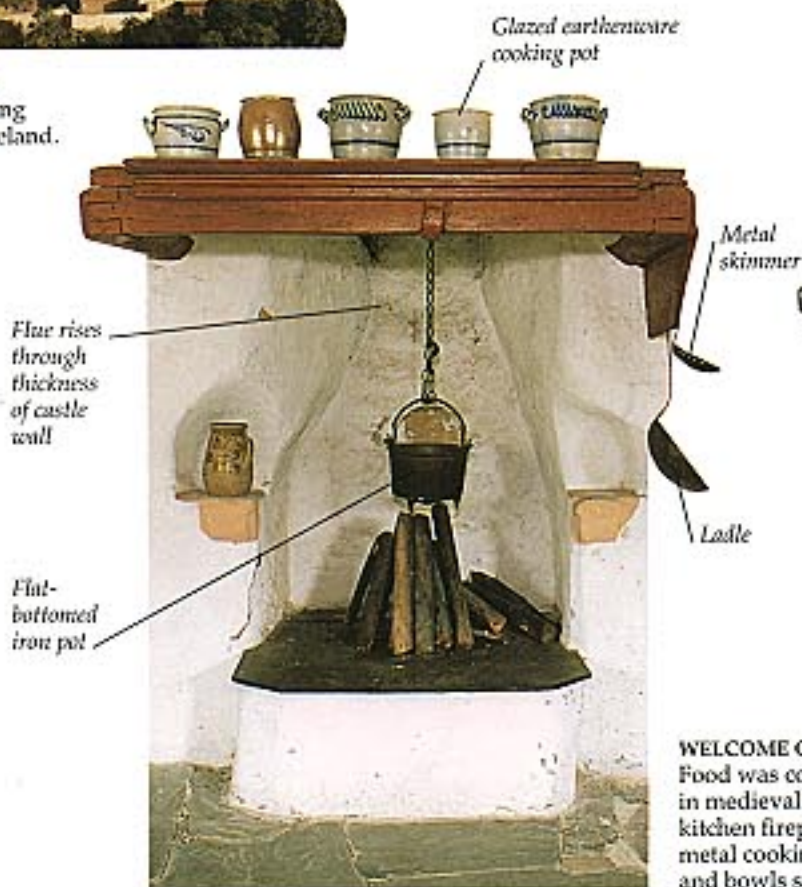


Castles on crags

In some areas, especially in Germany, castle-builders took advantage of hilly or mountainous countryside. The steepness made assault by men or siege engines difficult, and rock foundations deterred mining. When central control broke down in Germany in the mid-13th century and many of the lesser German barons built castles, they found that one of the cheapest ways was to circle the top of a crag with a wall. This was often rebuilt with flanking towers as these became common in the rest of Europe. A deep ditch was dug on the weakest side, or a very high mantle wall erected. If all sides needed equal protection, the walls might surround a central tower. Otherwise the domestic buildings were fortified and set around the courtyard to form a type of castle called a *Randhausburg*.



BUILDING WORK
This German illustration portrays the Biblical story of the Tower of Babel. Although the tower was supposed to have been built long before the Medieval period, the workers are using the methods that German builders would have used to construct a castle.



Flue rises through thickness of castle wall

Flat-bottomed iron pot

Glazed earthenware cooking pot

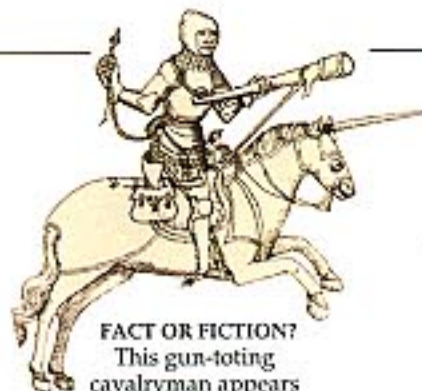
Metal skimmer

Ladle

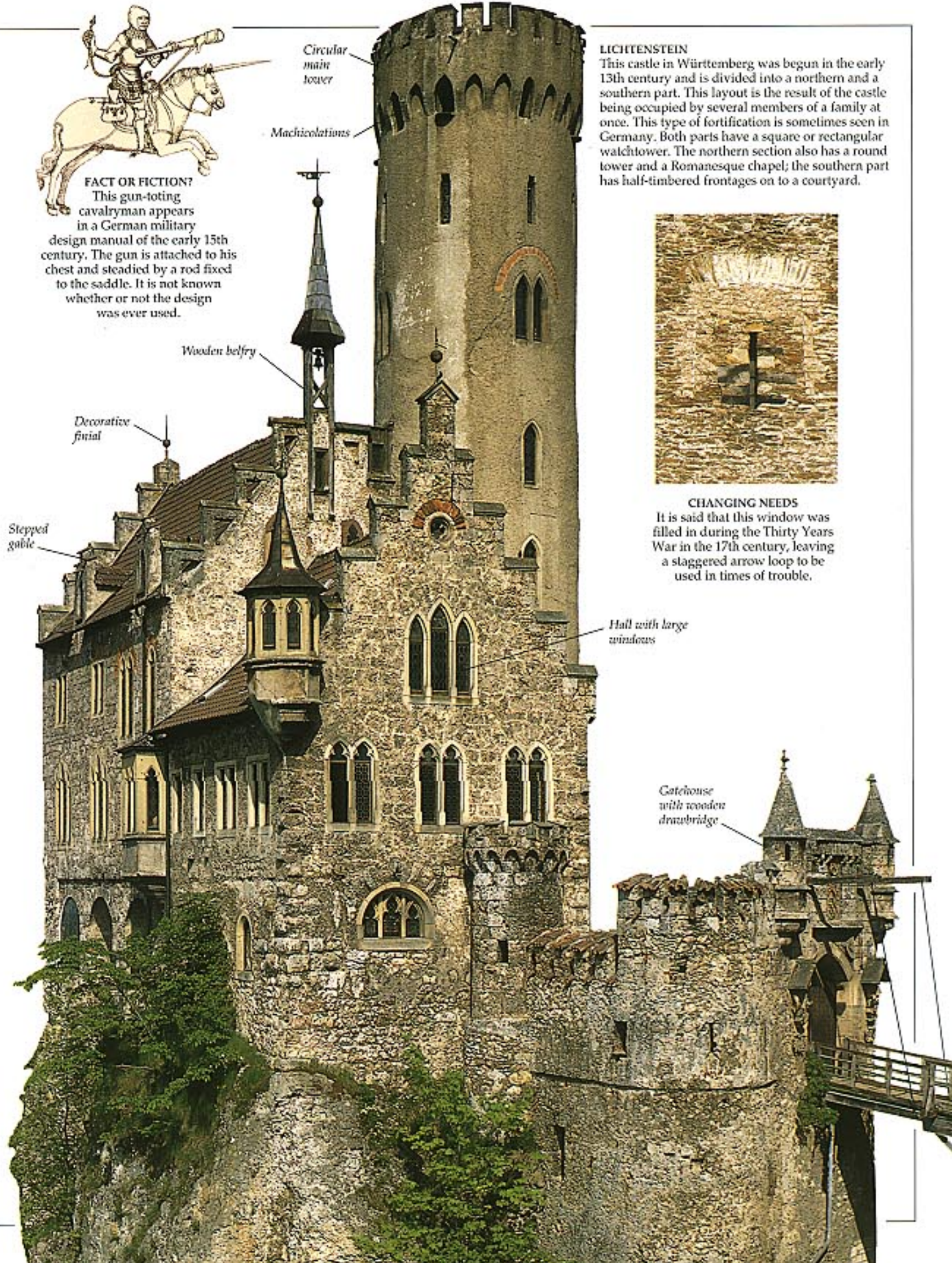


WALL SPACE
This niche in the wall has been given a shelf and filled with jugs behind a barred door.

WELCOME GLOW
Food was cooked over the kitchen fire in medieval castles (see pp. 40-41). This kitchen fireplace in Pfalzgrafenstein has a metal cooking pot hanging over the fire. Pots and bowls stand ready on the shelf above and a metal ladle and a skimmer hang to one side. Because kitchens had fires, there was always a possible danger. Sometimes the kitchen was put in a separate building, sometimes it was separated from the great hall by a passage, which gave some added safety.



FACT OR FICTION?
This gun-toting cavalryman appears in a German military design manual of the early 15th century. The gun is attached to his chest and steadied by a rod fixed to the saddle. It is not known whether or not the design was ever used.



Circular main tower

Machicolations

Wooden belfry

Decorative finial

Stepped gable

Hall with large windows

Gatehouse with wooden drawbridge

LICHTENSTEIN
This castle in Württemberg was begun in the early 13th century and is divided into a northern and a southern part. This layout is the result of the castle being occupied by several members of a family at once. This type of fortification is sometimes seen in Germany. Both parts have a square or rectangular watchtower. The northern section also has a round tower and a Romanesque chapel; the southern part has half-timbered frontages on to a courtyard.



CHANGING NEEDS
It is said that this window was filled in during the Thirty Years War in the 17th century, leaving a staggered arrow loop to be used in times of trouble.

The chapel

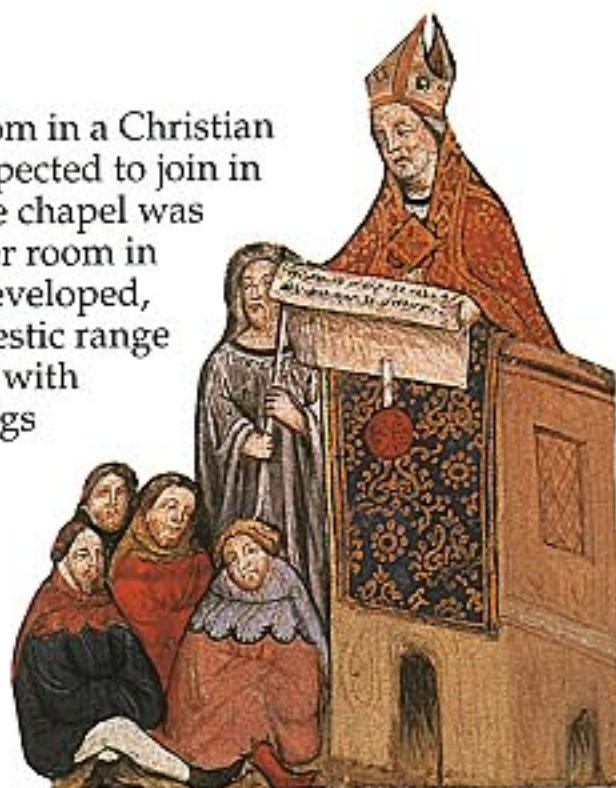
THE CHAPEL WAS an important room in a Christian castle, because inhabitants were expected to join in regular services. In early towers the chapel was often on the top floor or in an upper room in the entrance building. As castles developed, the chapel became part of the domestic range of buildings. It might be decorated with carved stonework and wall paintings that often illustrated a Bible story, because few people could read the Bible itself and so many relied on pictures. The clergy were among the few who could read and write and so, in addition to their religious duties, they looked after the documents relating to the castle. A chaplain therefore often had several clerks to help him.



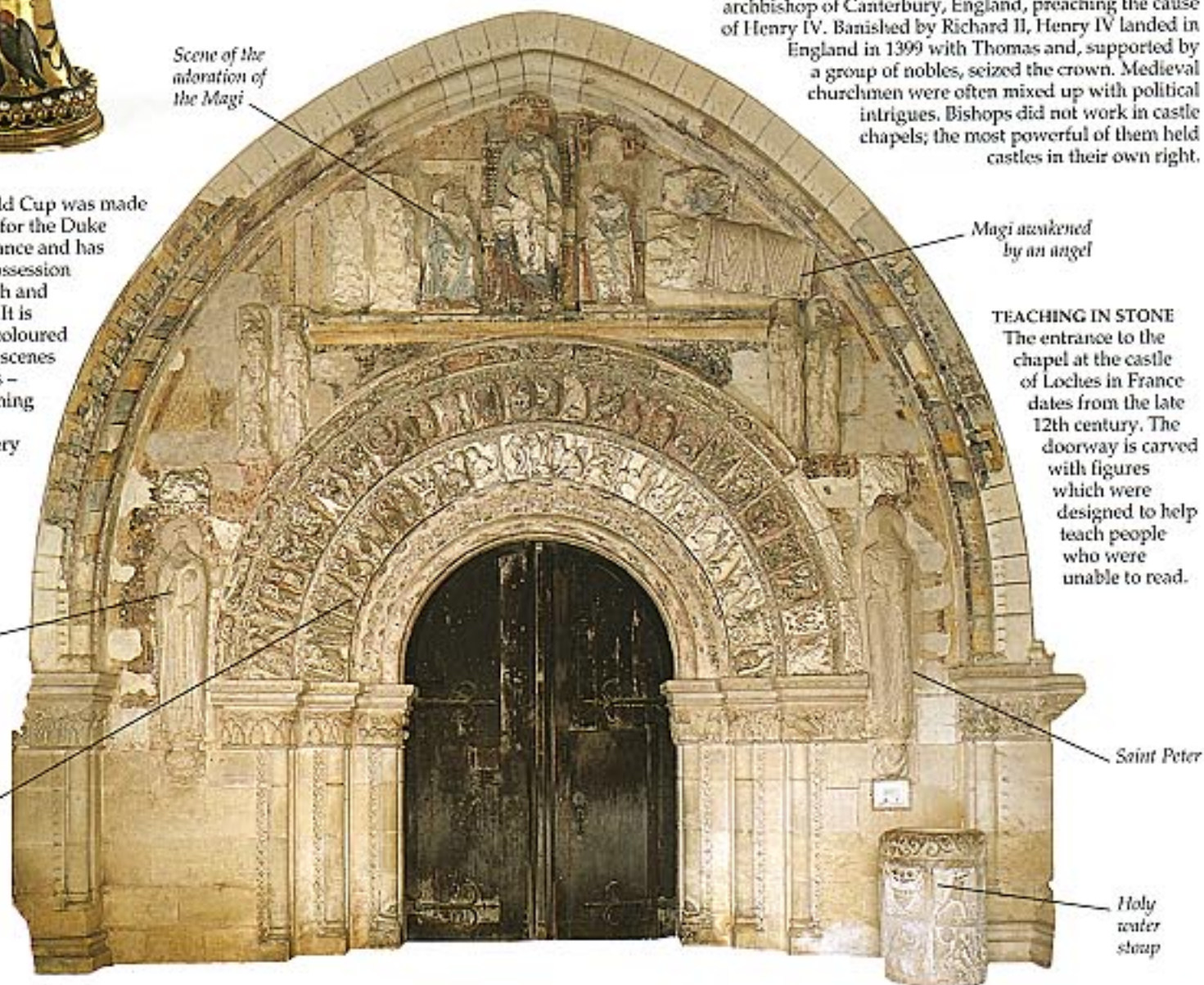
The dead were wrapped in cloth shrouds. A coffin was often used to take a dead body to the grave.



ROYAL CUP
The Royal Gold Cup was made in about 1380 for the Duke of Berry in France and has been in the possession of both English and French kings. It is decorated in coloured enamels with scenes of saints' lives – religious teaching was always present in every medieval household.



FAITH AND POLITICS
This 15th-century illustration shows Thomas Arundel, archbishop of Canterbury, England, preaching the cause of Henry IV. Banished by Richard II, Henry IV landed in England in 1399 with Thomas and, supported by a group of nobles, seized the crown. Medieval churchmen were often mixed up with political intrigues. Bishops did not work in castle chapels; the most powerful of them held castles in their own right.



Scene of the adoration of the Magi

Magi awakened by an angel

TEACHING IN STONE
The entrance to the chapel at the castle of Loches in France dates from the late 12th century. The doorway is carved with figures which were designed to help teach people who were unable to read.

Statue of a bishop

Carvings of animals and mythical beasts

Saint Peter

Holy water stoup



This mitre (bishop's hat) was probably Becket's



SEAL

Becket's seal shows an early mitre worn side-on. Later bishops, like Thomas Arundel on the opposite page, wore their mitres front-on, as bishops do today.

Thomas Becket in prayer at the altar

Poleyn

MARTYRDOM

This piece of alabaster is carved with a scene of the death of Thomas Becket in 1170, though the knights all wear armour of the late 14th century, when the carving was made. Becket was archbishop of Canterbury under Henry II of England, but the two men constantly argued. After an angry outburst by Henry, four knights murdered Becket in his own cathedral. He was soon hailed as a saint and Canterbury became a great shrine for pilgrims.



Sword with broad, diamond-sectioned blade

Gauntlet

Priest attending Becket



CHIPPING AWAY
Under cover of a shed on wheels miners pick away stones at the wall base. Inserted wood props were then burned to make the wall collapse. Raw or wet hides protected the wood from fire.



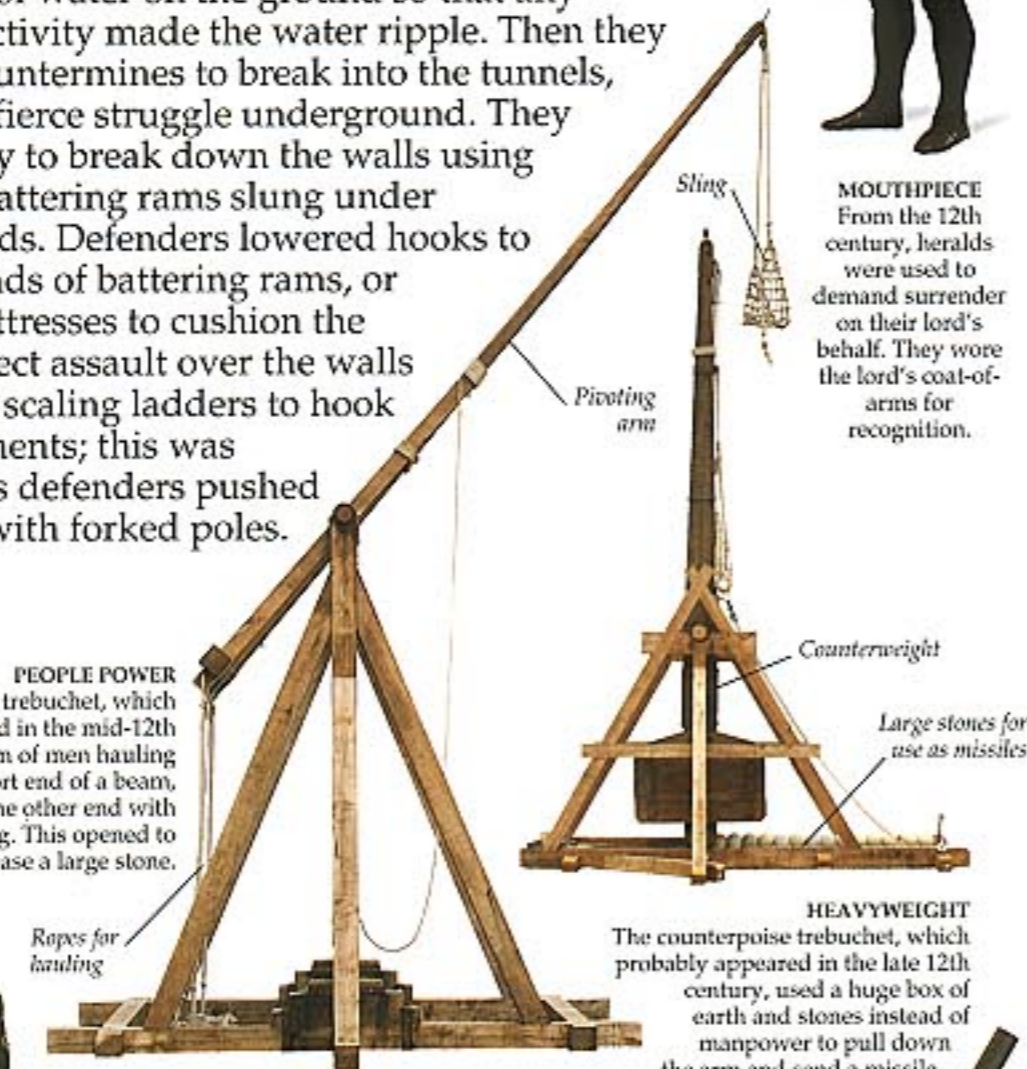
MOVABLE SHIELD
Archers and crossbowmen used these shields to protect themselves while trying to pick off defenders and covering assaults.

Laying a siege

If surrounding a castle and trying to starve the defenders into submission did not work, attackers could try to take it by force. They could tunnel under the walls to bring them down, or come up inside the courtyard. Defenders might place bowls of water on the ground so that any tunnelling activity made the water ripple. Then they could dig countermines to break into the tunnels, leading to a fierce struggle underground. They could also try to break down the walls using artillery or battering rams slung under movable sheds. Defenders lowered hooks to catch the heads of battering rams, or dropped mattresses to cushion the blows. A direct assault over the walls meant using scaling ladders to hook on to battlements; this was dangerous as defenders pushed them away with forked poles.

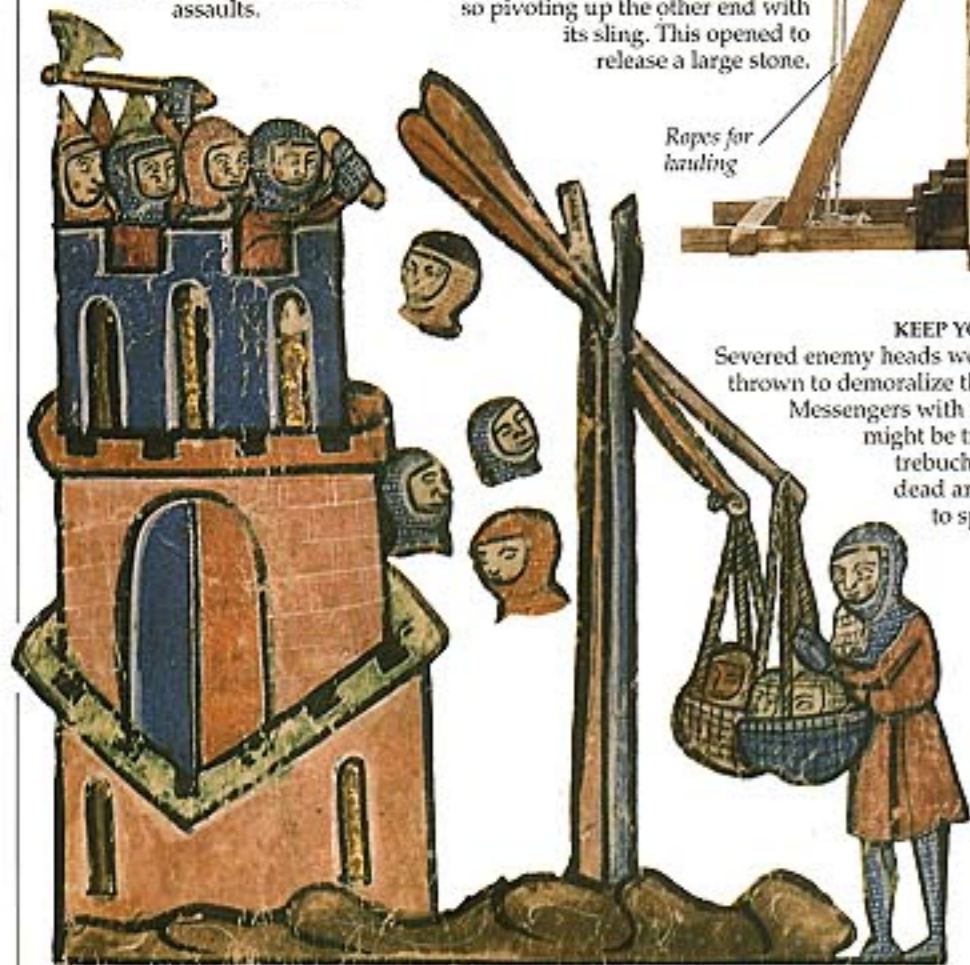


MOUTHPIECE
From the 12th century, heralds were used to demand surrender on their lord's behalf. They wore the lord's coat-of-arms for recognition.

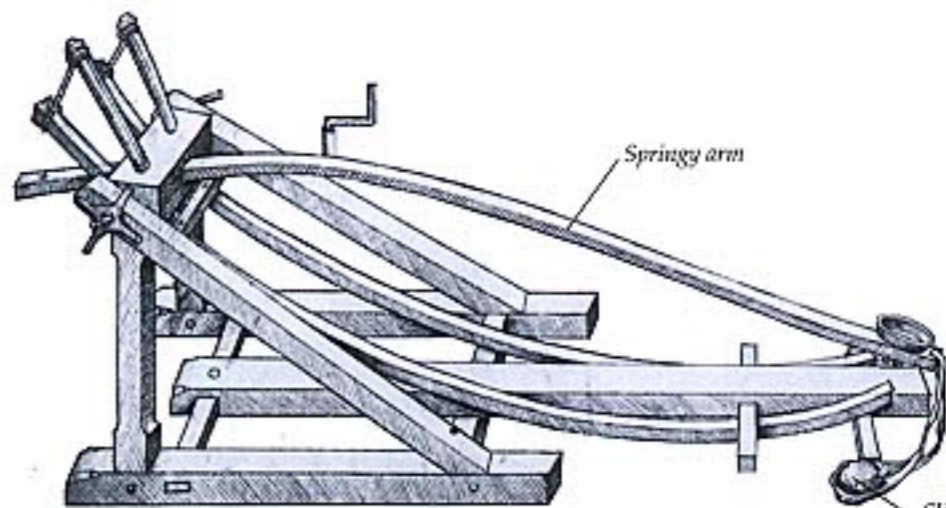


PEOPLE POWER
The traction trebuchet, which probably appeared in the mid-12th century, had a team of men hauling on ropes at the short end of a beam, so pivoting up the other end with its sling. This opened to release a large stone.

HEAVYWEIGHT
The counterpoise trebuchet, which probably appeared in the late 12th century, used a huge box of earth and stones instead of manpower to pull down the arm and send a missile flying into the air.



KEEP YOUR HEAD UP
Severed enemy heads were sometimes thrown to demoralize the opposition. Messengers with rejected terms might be trussed up in a trebuchet, or dung or dead animals thrown to spread disease.



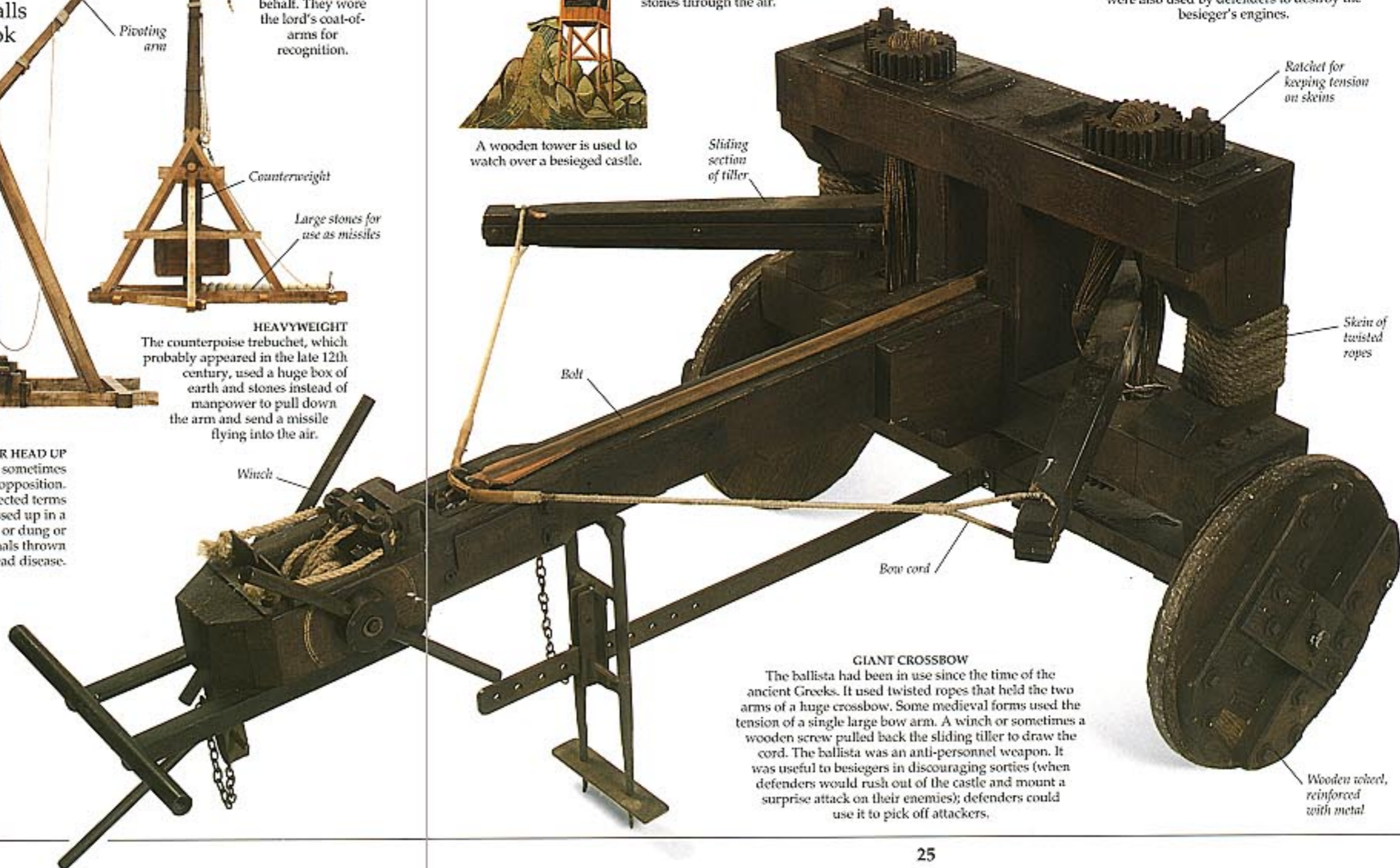
CATAPULT
This late 15th-century design for a catapult relies on springy arms to throw the missile. Another type of catapult, the mangon, had been in use since Roman times. It used the torsion created by a wooden beam placed between twisted ropes or hair to hurl large stones through the air.



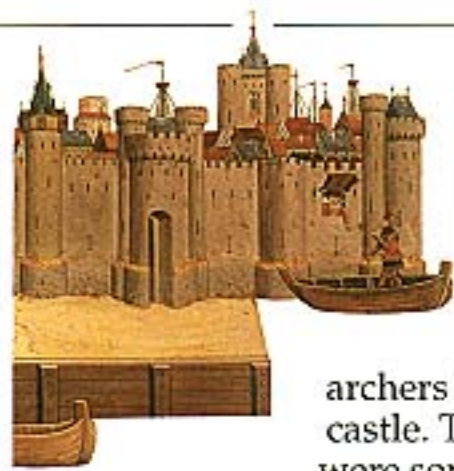
HEAVE!
A team of men haul on ropes to pull down the arm of a traction trebuchet. The operators (or gynours) were probably permanently within bowshot, needing to be protected by palisades. Large machines were produced on site. Catapults were also used by defenders to destroy the besieger's engines.



A wooden tower is used to watch over a besieged castle.



GIANT CROSSBOW
The ballista had been in use since the time of the ancient Greeks. It used twisted ropes that held the two arms of a huge crossbow. Some medieval forms used the tension of a single large bow arm. A winch or sometimes a wooden screw pulled back the sliding tiller to draw the cord. The ballista was an anti-personnel weapon. It was useful to besiegers in discouraging sorties (when defenders would rush out of the castle and mount a surprise attack on their enemies); defenders could use it to pick off attackers.



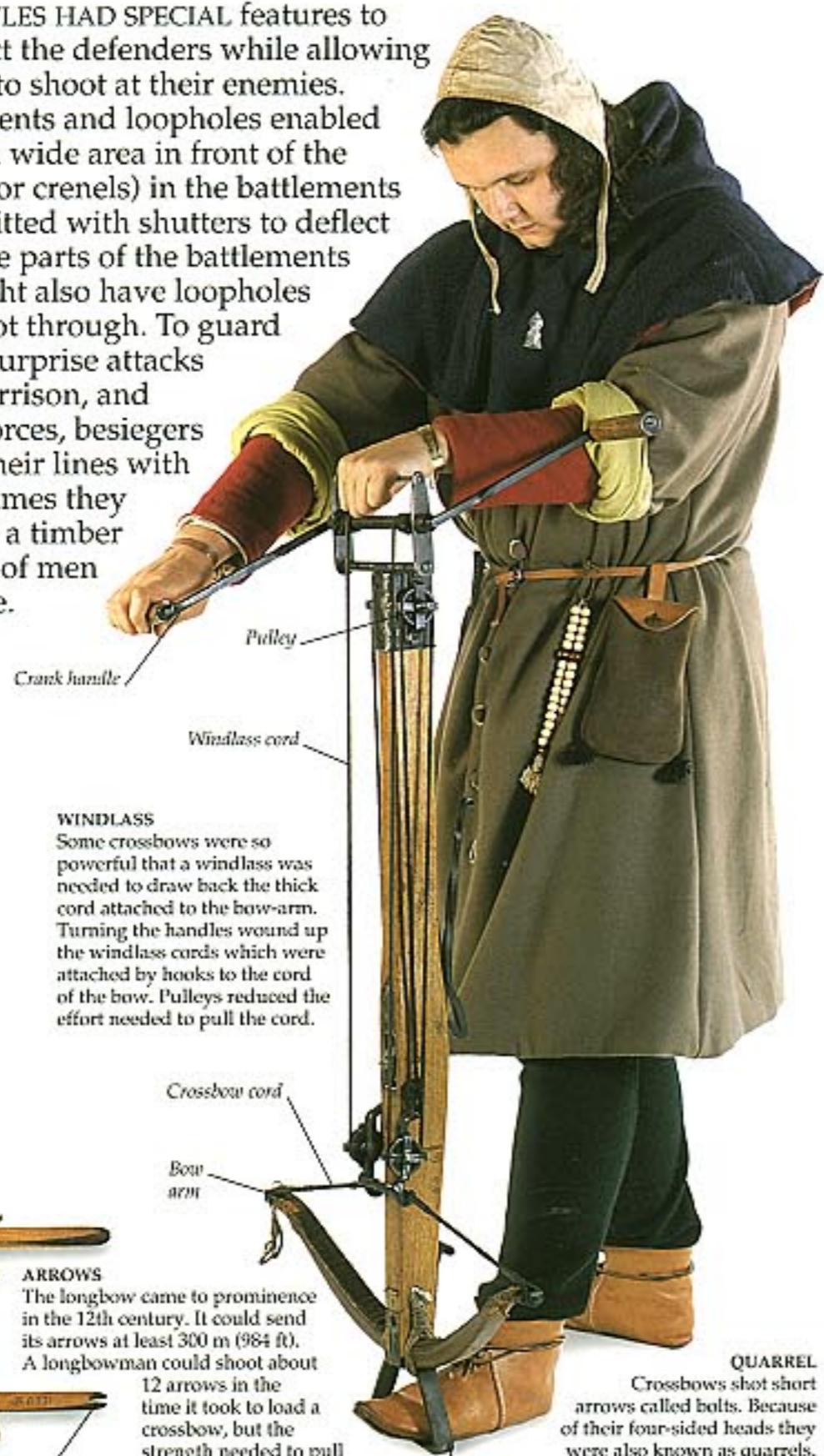
Men and missiles

CASTLES HAD SPECIAL features to protect the defenders while allowing them to shoot at their enemies.

Battlements and loopholes enabled archers to cover a wide area in front of the castle. The gaps (or crenels) in the battlements were sometimes fitted with shutters to deflect missiles. The stone parts of the battlements (the merlons) might also have loopholes for archers to shoot through. To guard against missiles, surprise attacks (sorties) by the garrison, and assault by relief forces, besiegers might surround their lines with pallisades. Sometimes they moved on but left a timber "siege castle" full of men to watch the castle.

OVER THE WATER
Some castles had a wet moat or lake and others were actually built near a river or the seashore. Occasionally besiegers brought up boats that contained scaling ladders or even wooden towers from which they tried to cross the walls.

NARROW LOOPHOLES
These holes were usually splayed on the inside to form an embrasure or open chamber within the wall. The archer probably stood just to one side of this, looking through the hole until an enemy came within range. Then he would move to the centre of the embrasure to shoot. Enemy marksmen may have got some arrows through loopholes, especially if shooting at close range.



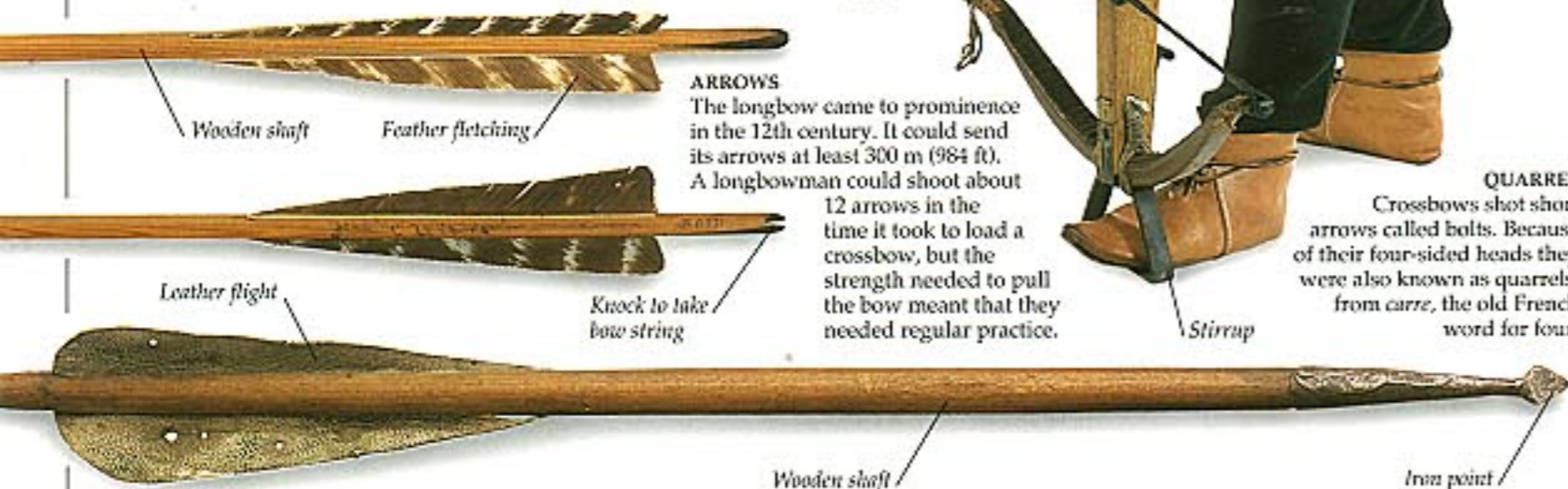
Crank handle
Pulley
Windlass cord

WINDLASS
Some crossbows were so powerful that a windlass was needed to draw back the thick cord attached to the bow-arm. Turning the handles wound up the windlass cords which were attached by hooks to the cord of the bow. Pulleys reduced the effort needed to pull the cord.

Crossbow cord
Bow arm
Stirrup

ARROWS
The longbow came to prominence in the 12th century. It could send its arrows at least 300 m (984 ft). A longbowman could shoot about 12 arrows in the time it took to load a crossbow, but the strength needed to pull the bow meant that they needed regular practice.

QUARREL
Crossbows shot short arrows called bolts. Because of their four-sided heads they were also known as quarrels, from *carre*, the old French word for four.



Wooden shaft
Feather fletching
Leather flight
Knock to take bow string
Wooden shaft
Iron point



Cord drawn back
Tiller
Bow arm
Bolt
Stirrup

THE CROSSBOW
Crossbows were powerful but slow to reload. For this reason their use in a castle was ideal, because the crossbowman could prepare his weapon from behind the safety of the walls. In some cases a second crossbow might be loaded by an assistant while the crossbowman was aiming the first one, so speeding up the process.

The bolts were carried in a quiver slung from the waist; in a castle they could be supplied from barrels

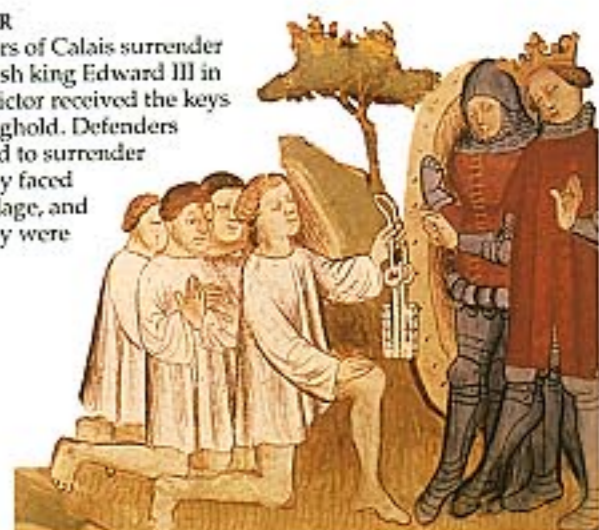


GOING UP
Spiral staircases were common in medieval castles. Each stair ended in a circular slab and the next stair was laid with this end over the one below, so creating the cylindrical newel post. Such stairs often spiral up in a clockwise direction; this may have been deliberately done to hamper an attacker fighting his way up the stairs, whose weapon (in his right hand) would keep hitting the stonework.



SHIELDED
Besieging crossbowmen also needed protection when reloading.

SURRENDER
The burghers of Calais surrendered to the English king Edward III in 1340. The victor received the keys of the stronghold. Defenders who refused to surrender immediately faced looting, pillage, and death if they were defeated.



Tricks of defence

THE FIRST OBSTACLE faced by someone attacking a castle was a wet or dry moat. A moat made it difficult for attackers to bring siege engines near to the castle. If dry, stakes might be planted to slow an enemy and make him an easier target. The gatehouse was an obvious weak spot, so a defensive work or *barbican* was sometimes placed in front to guard the approach. A drawbridge and portcullises gave extra protection. The portcullis was an iron-covered wooden grille moving up and down in slots either side of the entrance passage. It was raised by a winch in a room above and could be dropped quickly if danger threatened. Drawbridges over the ditch took several forms, including simple wooden platforms which were pulled back, lifting bridges attached by chains to pulleys, and turning bridges pivoted like a see saw.



GATEHOUSE
In this example the passage is flanked by huge towers. Missiles could be dropped on an attacker through slots over the arch.



DROPPING IN
The gate passage at Bodiam has so-called "murder holes" (*meurtrières*) in the roof so cold water could be poured down to put out fires. Scalding water, hot sand, or other offensive substances might be also dropped on enemies who managed to get in.

FLARING BASE
The Castel Nuovo (New Castle) in Naples, Italy, has a small outer wall or *chemise*. This wall has a splayed-out base (called a *batter* or *talus*), so that missiles dropped from above would bounce out towards the enemy. It also thickened the wall, giving added protection against attacks by battering rams, undermining, or bombardment. The castle was rebuilt in the years 1442-58 as an early experiment against artillery, so this example was also designed to deflect enemy cannon balls.

Corbel supporting machicolated parapet

Batter or talus



MACHICOLATIONS
Machicolations were stone versions of wooden hoardings and appeared in the 12th century. The battlements jutted beyond the walls and were supported on stone corbels. Gaps left between the corbels allowed offensive material to be dropped on enemies at the wall base.



Manuscript showing lifting bridge with wooden beams and chains



Pedestrian and main lifting bridges at Langeais, France



GUN PORT
In the late 14th century keyhole-shaped gun-ports appeared. Round ports were usually for handguns while horizontal slots were for small cannon mounted behind walls. This example is from the Pfalzgrafenstein in Germany.

STICKING OUT
The Pfalzgrafenstein on the Rhine has a number of hoardings built out from the tops of its walls. These are wooden constructions with gaps in the floor allowing defenders to drop missiles on attackers at the foot of the wall without having to expose themselves by leaning out over the battlements. Hot water, red-hot sand, or rocks might be thrown, as well as quicklime. Boiling oil, beloved of filmmakers, is rarely mentioned.

Slots for observation and shooting through

Wooden walls

Timber support

Machicolated parapet

Turret for observation

Round tower, less vulnerable to miners than sharp angles

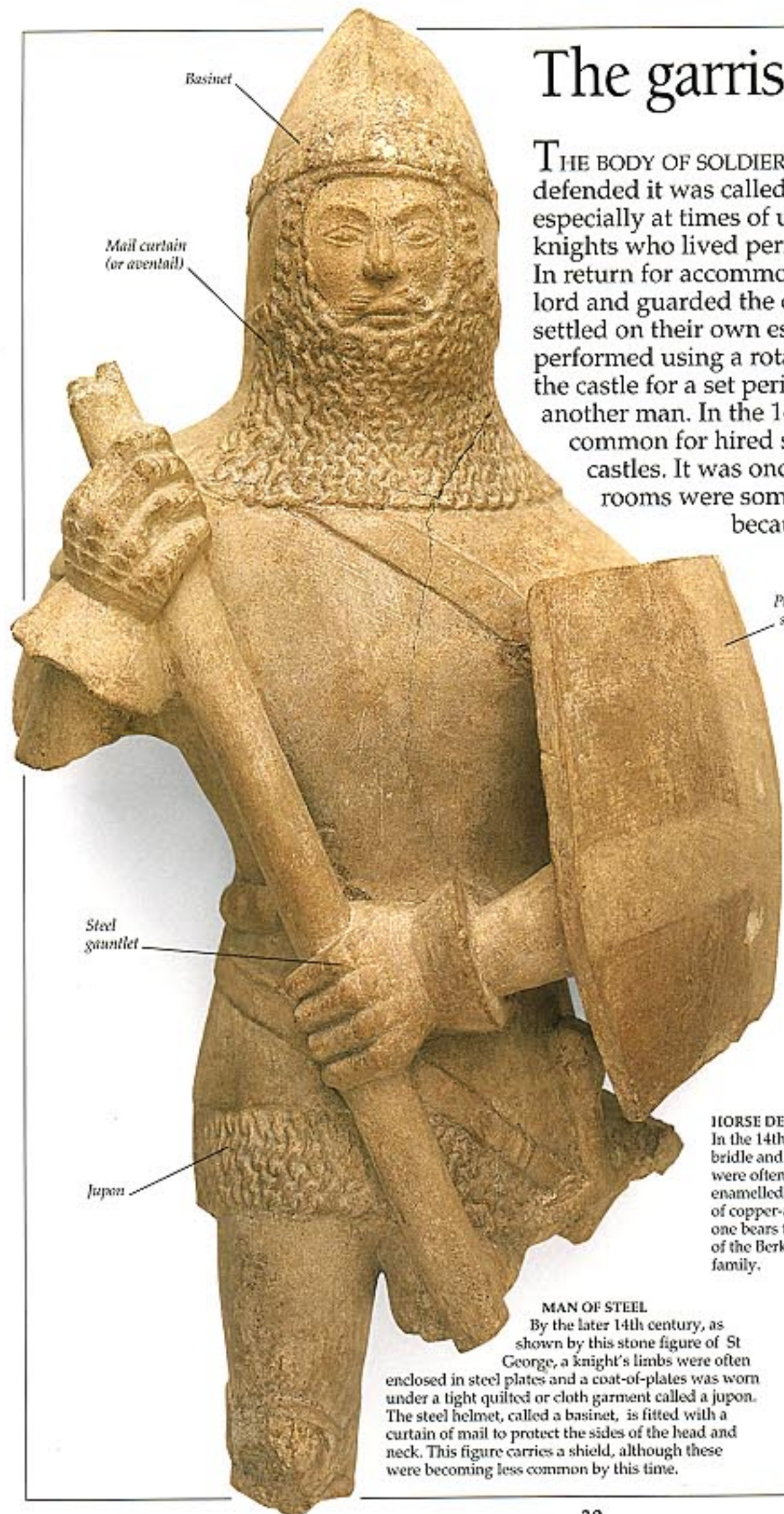
Loophole

CURTAINS AND FLANKS
The 14th-century castle at Bodiam, England has stretches of curtain walls protected by flanking towers which jut out beyond the wall face.



The garrison

THE BODY OF SOLDIERS who lived in a castle and defended it was called the garrison. In early castles, especially at times of unrest, these men might be knights who lived permanently in their lord's castle. In return for accommodation they fought for the lord and guarded the castle. Gradually more knights settled on their own estates and the duty was performed using a rota system. A knight stayed in the castle for a set period, then he was replaced by another man. In the 14th and 15th centuries it was common for hired soldiers to be used to guard castles. It was once thought that the lord's rooms were sometimes built over the gate because of fear of betrayal.



Basinet

Mail curtain (or aventail)

Part of shield

Steel gauntlet

Jupon



UNDER SIEGE

The garrison was vital in times of siege. In this German manuscript of the early 14th century the women of the castle help out the hard-pressed defenders.

HORSE DECOR

In the 14th and 15th centuries the bridle and breast straps of horses were often decorated with enamelled pendants made of copper-alloy. This one bears the arms of the Berkeley family.



MAN OF STEEL

By the later 14th century, as shown by this stone figure of St George, a knight's limbs were often enclosed in steel plates and a coat-of-plates was worn under a tight quilted or cloth garment called a jupon. The steel helmet, called a basinet, is fitted with a curtain of mail to protect the sides of the head and neck. This figure carries a shield, although these were becoming less common by this time.



KNIGHTLY DUTIES

Castles usually had only a small garrison in peacetime, and even in time of trouble soldiers were usually counted in tens rather than in hundreds. The garrison provided a ready supply of knights, men-at-arms, and squires when a lord needed them. Armed men were needed not only in time of war. Lords used them for escort duties, to protect them on the roads, especially from robbers in wooded areas. In this 14th-century picture the arrival of mailed men is greeted by fanfares from the castle.



Round-topped shield, typically Italian in shape

Modern mount

Bishop's mitre

Wild boar

OLD BOAR

This 15th-century horse pendant was, like the others, cast in copper-alloy and decorated with enamel. The decoration shows a wild boar and a bishop's mitre. The pendant has been cut down and mounted.



FIGHTING MAN

Knights who garrisoned Norman castles had coats of mail, steel helmets, and large wooden shields.



MEDALLION

This silver medallion comes from Florence, Italy, and dates to the 14th century. The right-hand shield may show the arms of the Cresci family, suggesting that it could have belonged to one of that family's retainers.



Loop for chain

Dragon emblem

Arms of Cresci family

Worn white enamel decoration

DRAGON

This badge dates from the 15th century and depicts a dragon. This creature was a common emblem in heraldry. The badge is decorated with enamel, and was worn as a pendant.

MULBERRY BUSH

This badge of a mulberry bush belonged to a retainer of the Mowbray family. Followers of noble families often wore metal badges like this, or cloth badges stitched to their clothing for identification.



THORN IN THE SIDE

Castles were not just fortified dwellings. They were bases from which soldiers controlled the surrounding countryside. This meant that an invader had to detach soldiers to take castles, or run the risk of his supply lines being cut.



The castle as prison



Welsh prince Gruffydd falls to his death trying to escape from the Tower of London in 1244.

MANACLES
This iron collar is attached to a chain, which in turn is secured to the wall of a room in Loches castle. To add to the discomfort, the collar weighs about 16 kg (35 lb). Few men of rank would be kept in such conditions.

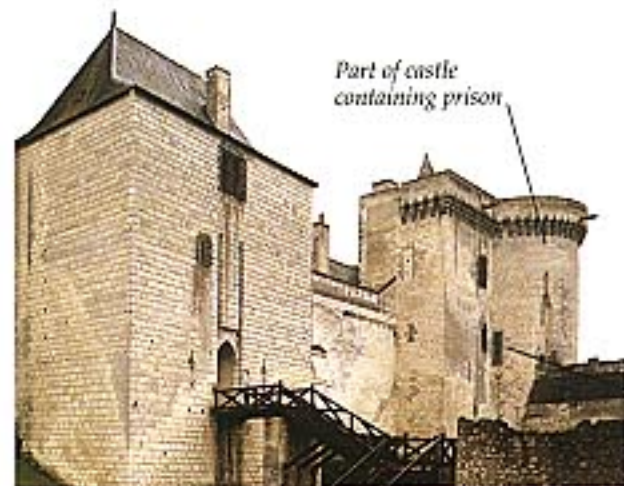


Heavy iron chain attached to wall

A CASTLE SEEMS AN IDEAL PLACE for keeping prisoners. In medieval times most prisoners were political or state prisoners. Some of them were captured noblemen awaiting the payment of ransom money. They were given good living conditions, because they were valueless to their captors if they died. Such men might even give their word of honour not to escape, in return for some freedom. Most rooms called "dungeons" were probably cellars – only the ones with difficult access may have been prisons. These were sometimes called *oubliettes*, a French word suggesting that the prisoners were left and forgotten. Criminals were not imprisoned in castles in the Middle Ages. They were usually punished by fine, mutilation, or execution. More castles were used as prisons after the Middle Ages. In fact, most stories involving torture, imprisonment, and execution taking place in castles belong after the Middle Ages, in the 17th and 18th centuries.



GOOD KING RICHARD?
The English king Richard III was said to have ordered the murder of his two nephews, Edward V and Richard, in the Tower of London in 1483. The princes were kept in the Tower to prevent nobles from using them as rivals for the throne. Nobody knows who really killed them or exactly when they died.

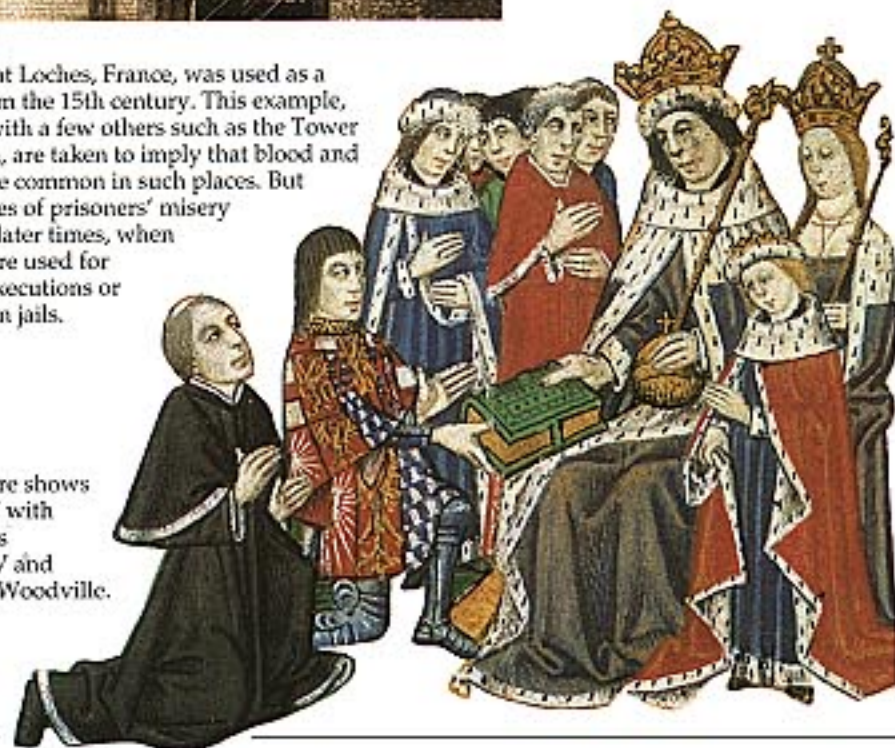


Part of castle containing prison

Barred window

A PRISON
The keep at Loches, France, was used as a prison from the 15th century. This example, together with a few others such as the Tower of London, are taken to imply that blood and death were common in such places. But most stories of prisoners' misery belong in later times, when castles were used for political executions or as common jails.

VICTIM?
This picture shows Edward V with his parents Edward IV and Elizabeth Woodville.



VAULTS

A post at Chillon castle, France, has an iron ring attached, to which prisoners were manacled to prevent them escaping.



DEATH BY BURNING
Those who refused to follow the state religion were sometimes burned at the stake. Many burnings took place during the 16th century.



OFF WITH HIS HEAD!
The sword was used in Europe for beheading, as in this picture of 1415. The victim waits blindfolded for the fatal blow.

MAID OF ORLEANS
This 19th-century statue is of Joan of Arc, a young Frenchwoman from Orleans who was burned at the stake for witchcraft in 1431 because of her leading role in victories over the English. She was imprisoned in the castle at Rouen during her trial.



Banner bearing fleur-de-lis, the traditional heraldic symbol of France

Stout grille made of hard wood

Wooden peg

Window

Stone bench seat

Small wooden door for passing food and drink to prisoner inside



BARRED VIEW

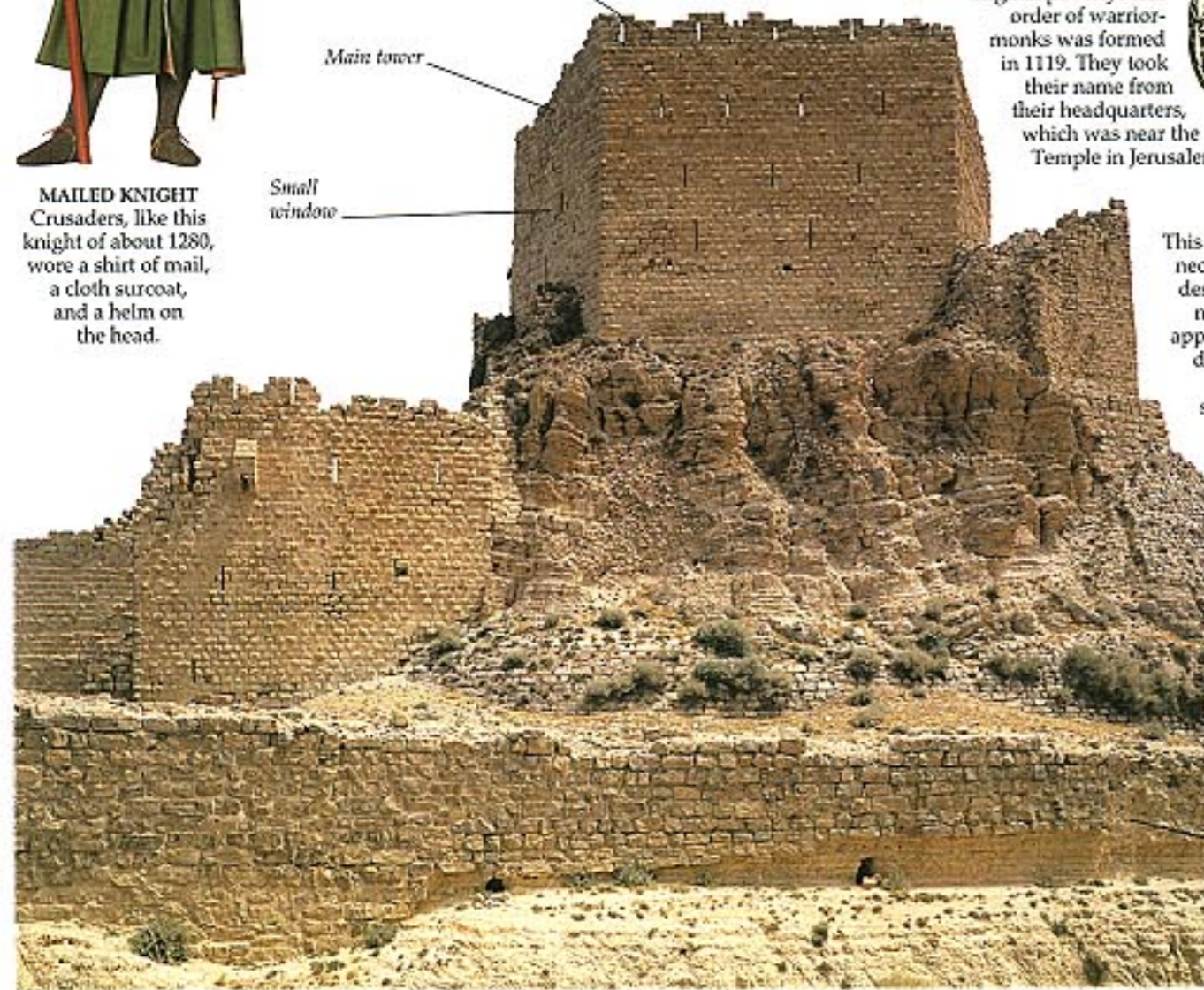
A strong wooden grille confines the prisoner in his room in the castle at Loches. Prisoners were often allowed to have much more space than in this small cell.

Crusader castles

FOR OVER 200 YEARS European Christians fought the Muslims to try to win control of the Holy Land by launching expeditions called crusades. They were impressed by huge Byzantine and Muslim fortifications and took over Muslim strongholds to encourage European settlers. They built castles to guard roads and to help them attack nearby towns. By the late 12th century such castles were being used as border posts, administrative centres, safe havens, and army bases. Often, the crusaders used good sites for castles, places protected on three sides by a sea or river; they built strong walls and ditches to guard the fourth side. Elsewhere, rapid building was necessary, so simple rectangular enclosures with corner and flanking towers appeared.



MAILED KNIGHT
Crusaders, like this knight of about 1280, wore a shirt of mail, a cloth surcoat, and a helm on the head.



Battlements
Main tower
Small window



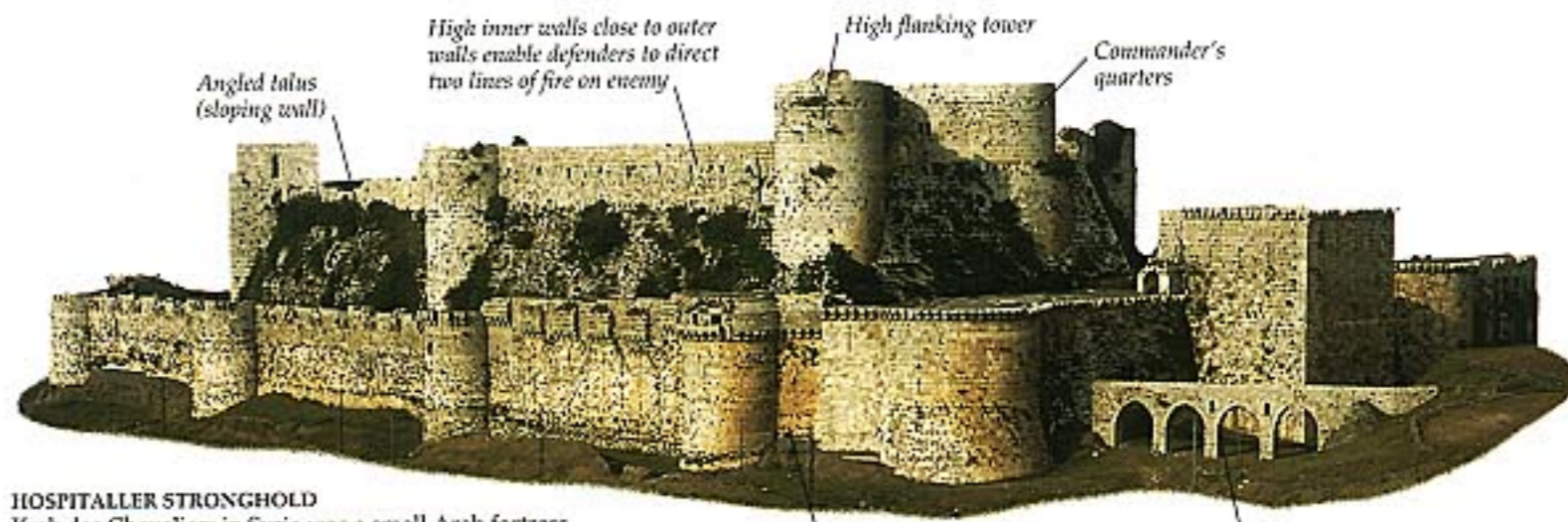
BESIEGED
This 13th-century Italian manuscript shows Crusaders trying to break into Antioch. This city was so large that the men of the First Crusade (1095–1099) could not surround it, in spite of the size of their army. So they had to guard against sorties from the gates, building forts to watch over them. European artists knew that the crescent was a Muslim symbol, and thought it was used on the defenders' shields.

POOR KNIGHTS?
The seal of the Knights Templar shows two knights on one horse, suggesting their original poverty. This order of warrior-monks was formed in 1119. They took their name from their headquarters, which was near the Temple in Jerusalem.



KERAK
This castle stands on a narrow neck of land in the Jordanian desert. It is isolated from the nearby town, and from the approach at the other end, by ditches cut in the rock. The other sides have natural steep rock slopes. A lower courtyard on one side gave the defenders two levels from which to fire. Built in 1142, it was so effective in disrupting the communications of the Muslims that it was attacked several times. It took an eight-month siege by the Muslim leader Saladin in 1188 before the castle fell.

Wall of lower courtyard



HOSPITALLER STRONGHOLD
Krak des Chevaliers in Syria was a small Arab fortress which was rebuilt in the 12th century by the Knights Hospitaller, the other great order of warrior monks. The rectangular castle was given an outer ring of walls to make a complex structure that withstood many sieges.

Angled talus (sloping wall)

High inner walls close to outer walls enable defenders to direct two lines of fire on enemy

High flanking tower

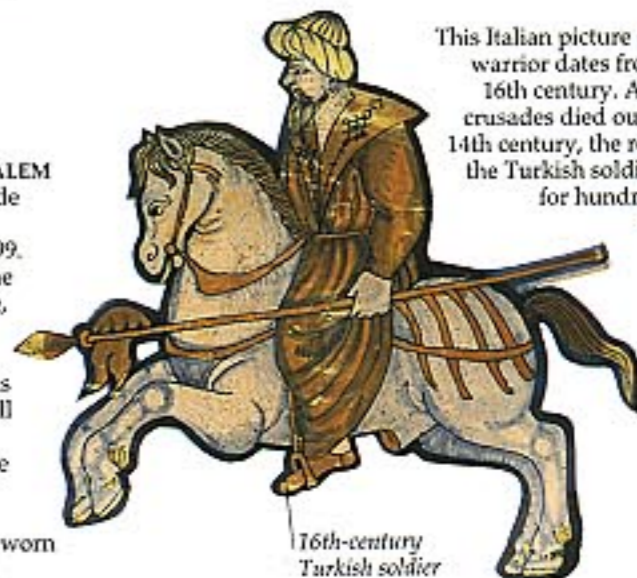
Commander's quarters

Outer curtain wall

Aqueduct to channel water into castle



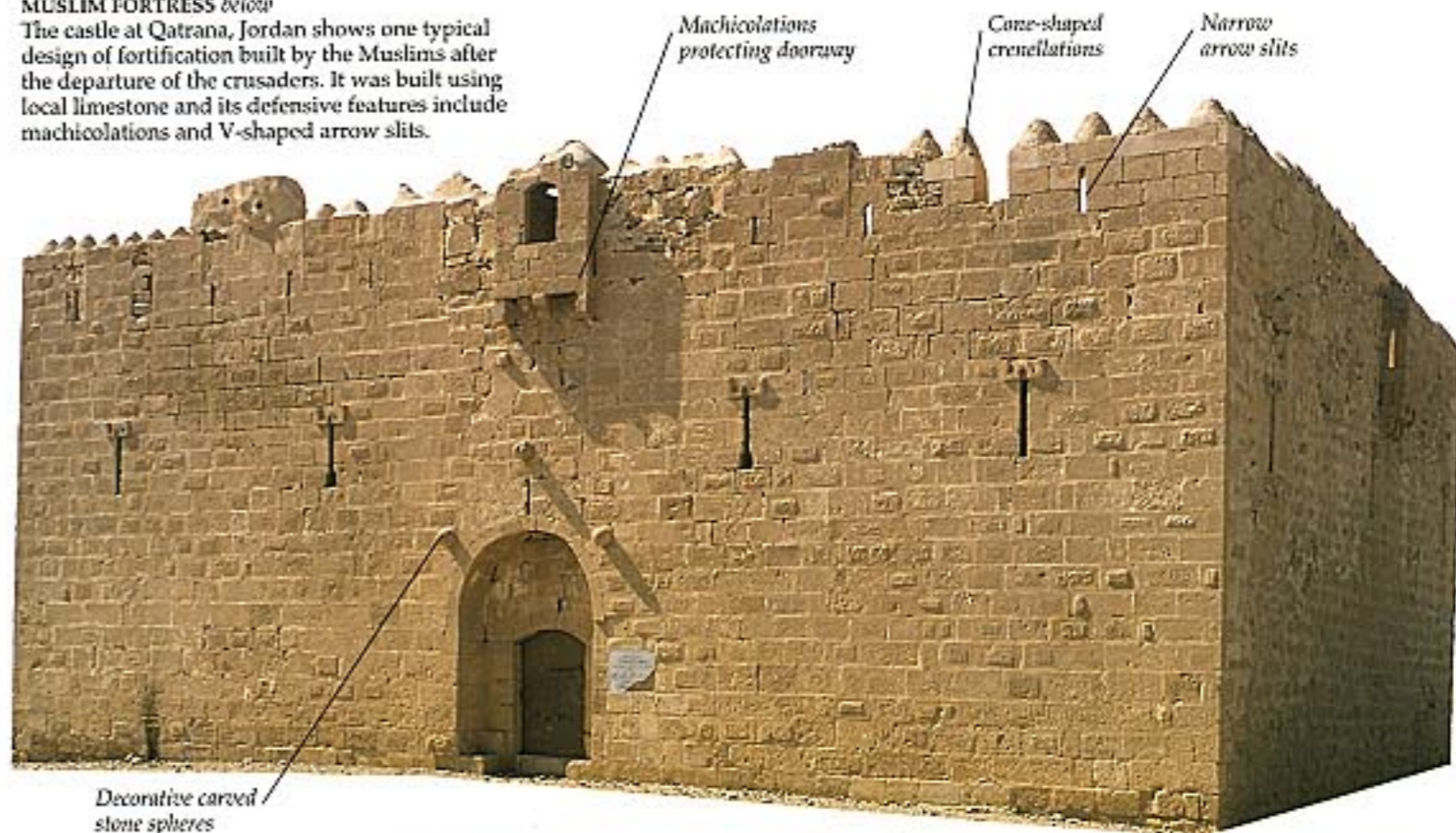
FALL OF JERUSALEM
The First Crusade finally reached Jerusalem in 1099. Breaking into the city after a siege, the soldiers began killing and looting. This picture of the fall of the city was made during the 15th century, hence the later style of armour worn by the soldiers.



16th-century Turkish soldier

CHARGE!
This Italian picture of a Turkish warrior dates from the early 16th century. Although the crusades died out during the 14th century, the reputation of the Turkish soldiers lived on for hundreds of years afterwards.

MUSLIM FORTRESS below
The castle at Qatrania, Jordan shows one typical design of fortification built by the Muslims after the departure of the crusaders. It was built using local limestone and its defensive features include machicolations and V-shaped arrow slits.



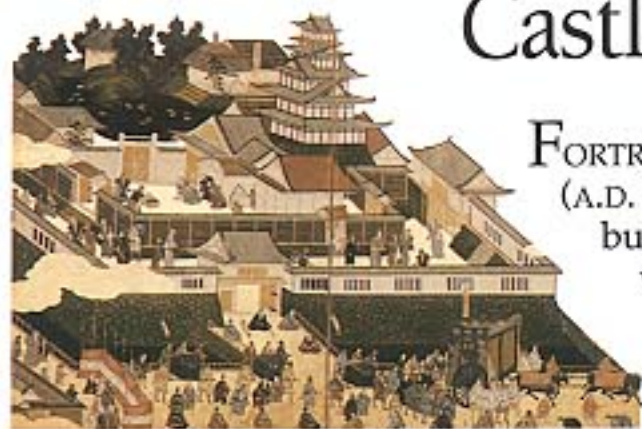
Machicolations protecting doorway

Cone-shaped crenellations

Narrow arrow slits

Decorative carved stone spheres

Castles in Japan



MANY BAILEYS

Castles often contained many courtyards, which kept the main tower a safe distance from attempts to set it on fire. Progress through the courtyards was sometimes like going through a maze. An attacker would have to go through all the baileys before getting to the main tower.

NEW MONEY

Ieyasu was the first of the Tokugawa Shoguns, Imperial officials who became the most powerful men in Japan. He reorganized Japan's monetary system in the late 16th century. Cast or beaten slabs of gold or silver were used for coins.



Gold coin, 1601



Silver coin, 1601



SAMURAI

The samurai was in many ways similar to the feudal knight of Europe. He was a trained warrior who served a lord and expected to be served by peasants and merchants. His armour was made in a unique way. It consisted of iron plates laced together. Because of the damp climate the iron was lacquered to stop it rusting. This armour was effective against the very sharp swords used, which were the mark of the samurai. This picture shows a samurai warrior crossing the Uji river in 1184.

SWORD POLISHING

Polishers work on lethally sharp samurai weapons. In the later 16th century, samurai warriors often lived in large castles, as the daimyos (provincial rulers) began to replace their many small fortresses with single huge castles, often built in towns. Such castles became administrative centres as well as fortresses.



ATTACKING THE GATE

The assault on the Sanjo palace (1160) shows a common method of attack. This was rarely successful, unlike starvation or betrayal. Sometimes the garrison shot the attackers in the courtyard. Siege techniques were similar to those used in Europe, although mines were not used until the later 16th century.

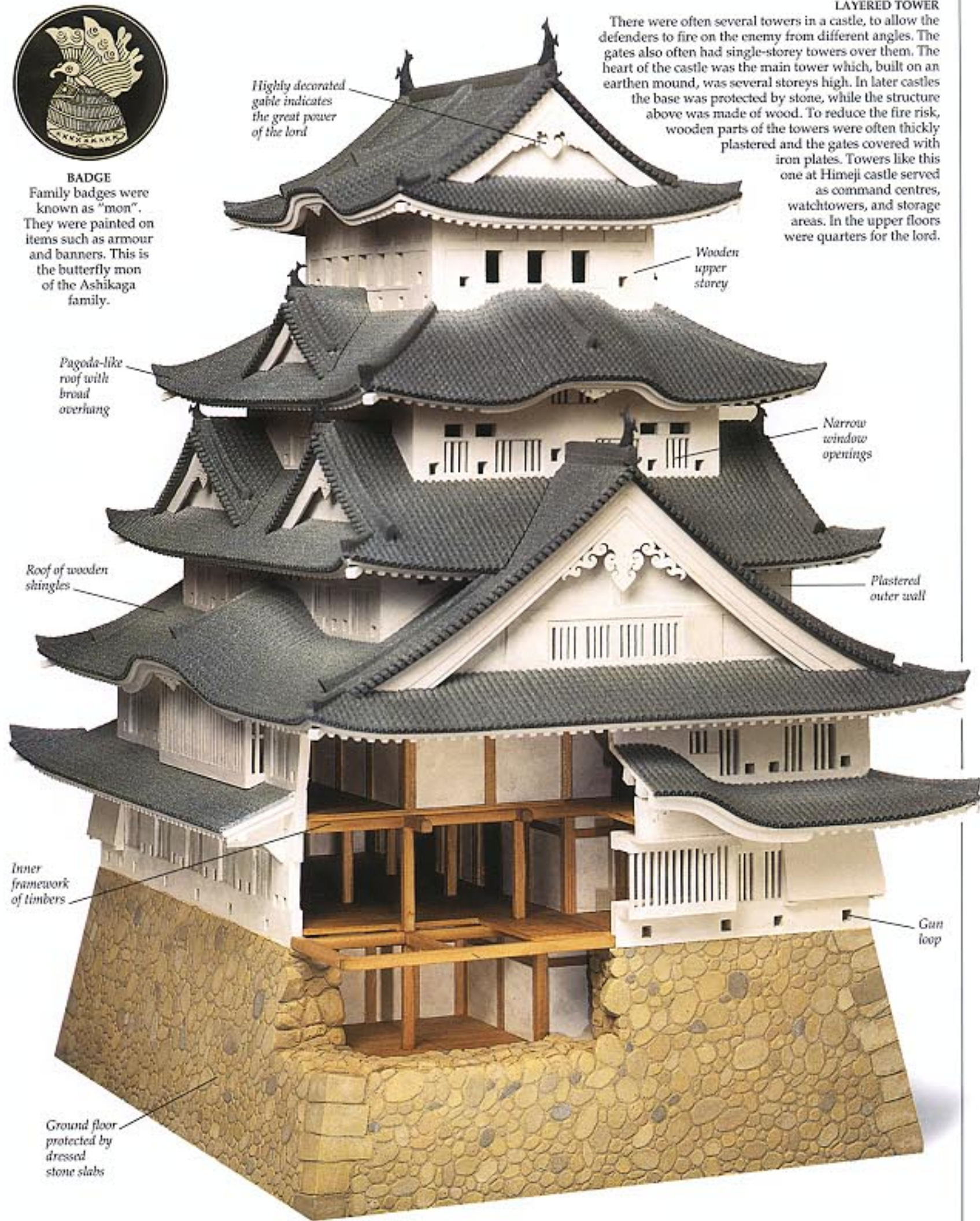
FORTRESSES HAD BEEN BUILT in Japan since the Yamato period (A.D. 300–710). Sometimes these were temporary strongholds, but by the 14th century more permanent fortifications of wood were beginning to appear. The 16th and early 17th centuries, a time when castles were in decline in Europe, saw the heyday of castles in Japan. The reasons for this were the political instability in Japan and the use of small firearms. Cannon were not highly developed there, so warriors could shelter behind castle walls, safe against the handguns and cavalry of their enemies.

Natural hill sites were used if possible; otherwise platforms of rammed earth were built and faced with dressed stone blocks. Rivers, lakes, or the sea provided natural moats.



BADGE

Family badges were known as "mon". They were painted on items such as armour and banners. This is the butterfly mon of the Ashikaga family.



Highly decorated gable indicates the great power of the lord

Wooden upper storey

Pagoda-like roof with broad overhang

Narrow window openings

Roof of wooden shingles

Plastered outer wall

Inner framework of timbers

Gun loop

Ground floor protected by dressed stone slabs

LAYERED TOWER
There were often several towers in a castle, to allow the defenders to fire on the enemy from different angles. The gates also often had single-storey towers over them. The heart of the castle was the main tower which, built on an earthen mound, was several storeys high. In later castles the base was protected by stone, while the structure above was made of wood. To reduce the fire risk, wooden parts of the towers were often thickly plastered and the gates covered with iron plates. Towers like this one at Himeji castle served as command centres, watchtowers, and storage areas. In the upper floors were quarters for the lord.



The great hall

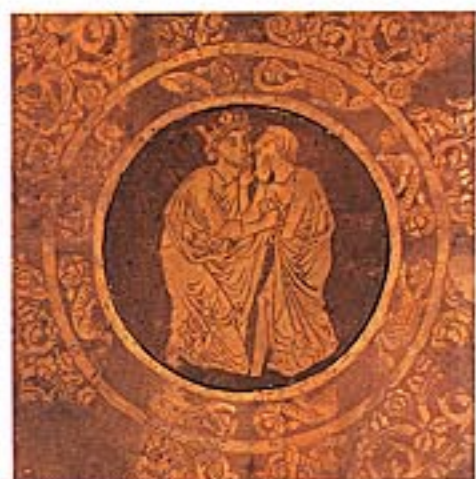
THE HALL WAS the main room in the castle. It was used for eating, sleeping, and carrying out castle business. The day in the hall began early with breakfast, which consisted of bread soaked in ale or watered wine, eaten after Mass. The main meal, where formality and good manners were expected, was taken at about ten or eleven in the morning. In the evening there were various suppers, which often ended in overeating and drunkenness. Servants with ewer, basin, and napkin poured water over the hands of important guests before and after meals; other people washed at basins near the doors. Later the trestles were removed to make room for entertainment and eventually the stuffed palliasses used for sleeping. Only rich people had proper beds. During the 13th century the lord began to distance himself from the larger household, and extra rooms were built for him and his close family.



12th-century copper-alloy hanging lamp

Holder for candle

Modern drip-catcher



FLOORED! A 13th-century tile illustrates the legend of Tristan. The floors of royal palaces, rich halls, and abbeys were decorated with many tiles like this. Carpets were sometimes imported as luxuries from the East, but they were usually hung on the walls, like tapestries.

HEARTH AND HOME

Early halls had a fireplace in the middle of the room but these were later abandoned in favour of wall fireplaces, which had the advantage of a flue to carry away the smoke. The lord's table was often near the fire for warmth and was placed at one end so the lord could survey the whole hall. Often on a raised platform or dais it might be the only table with fixed legs and a cloth.



Silver bird holds shield with heralitic arms of the Count of Flanders

Gilded mount

Maple-wood cover

Bowl made from very finely cut maple wood



Animal decoration

CANDLESTICK Animals and plants decorate this late 12th-century copper-alloy German candlestick. Candles were made from animal fats. Oil lamps were also used.

Decorative enamelled lozenge

YOUR HEALTH

Wooden covered bowls were sometimes used for drinking toasts. They were called mazers, an old word for maple, the wood used to make the bowls. This rich 15th-century Flemish example has a gilded silver foot. It probably belonged to Louis de Male, Count of Flanders. Other precious vessels in the hall included the salt cellar. This was placed in front of the principal guest at mealtimes; smaller "salts" were placed on other tables. Lesser folk sat "below the salt".



FORMAL MEALS These took place in the great hall. Sometimes there was a lesser hall where the castle constable conducted business.



STEEP ROOF

The castle at Loches on the River Loire in France has a keep of the 11th and 12th centuries with many later additions. The royal hall with its stepped gable is associated with the 15th-century king, Charles VII, whose mistress Angès Sorel lived at Loches and is buried there.

ROYAL HALL Steps from the hall at Loches, France, led out to the battlements, marked by the round tower. Often the curtain wall formed one side of the hall. This saved money on building but large windows could not be pierced on this side of the hall. Early halls had been made of timber, but stone became increasingly common. Because of the smell and fire risk, the lord usually built his hall well away from the castle kitchen.



Battlements of great hall

Conical, slate-covered roof

Door to tower and outer courtyard

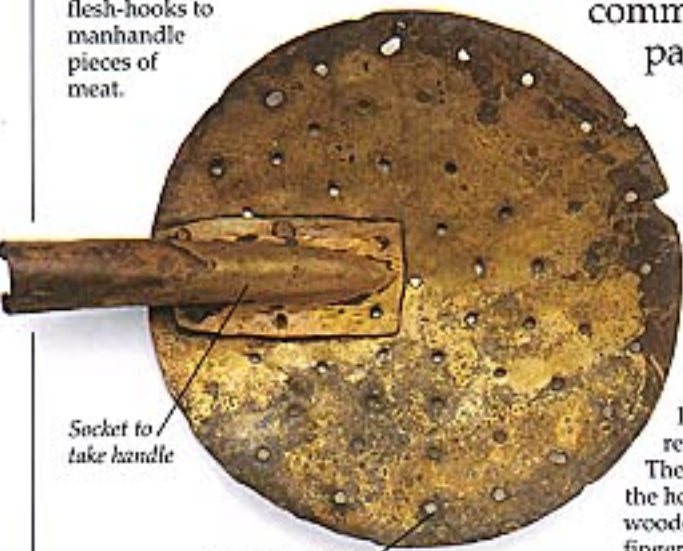
Circular tower overlooks battlements, to give a good view of the surrounding area

Large upper windows of great hall

The kitchen

IN THE MIDDLE AGES, the heat for cooking was provided by fires. Accidental fires could be disastrous, so the castle kitchen was often housed in a separate building in the courtyard. But this meant that the food cooled as it was carried to the table. So it became more common for the kitchen to be joined to the castle hall by a passage. It might contain an open hearth or ovens set into the walls. In addition there could be a range of other rooms nearby – a pantry (for storing food), a buttery (for bottles), a bakehouse, and perhaps even a brewhouse with a tank to soak barley and kilns to dry the grain.

HOOKING OUT THE FOOD
A 14th-century cook uses flesh-hooks to manhandle pieces of meat.



Socket to take handle

Holes through which water could drain

SKIMMER
Many foods were cooked by boiling them in water. A tool like this skimmer could be used to remove small items from a cauldron. The hot water would drain away through the holes. There was originally a long wooden handle to prevent the cook's fingers from getting burnt.



Hollow tube removes core, leaving the more edible parts

CORE OF THE PROBLEM
This object is probably an apple corer. It could be pushed into the middle of the apple to remove the core.



Wooden handle

KNIFE

As today, knives of all sizes were used in the kitchen for cutting, carving, and boning.



Hooked prong

FLESH-HOOK

This was a tool with metal prongs that were sometimes bent into hooks. Using the wooden handle, the flesh-hook could be thrust into a piece of meat to lift it into or out of a cauldron of boiling water. This was a common way of cooking meat.



SPITTED
In this 14th-century picture, several animals are turned on a spit so that they roast evenly. The man on the left puts a log on the fire using along forked stick.

CLEAVER
The cook would cut up animal carcasses with a cleaver. It had a large, deep blade, because it was brought down through the meat like an axe. The weight of the blade, as well as its sharp, curved edge, helped to cut through the flesh.



Broad, heavy blade



SUGAR LOAVES
White sugar was a costly rarity in Europe – it had to be brought from the East. The lowest quality of refined sugar was the conical loaf shown here, which was made from white paste. Powdered white sugar, sometimes flavoured with spices or flowers, was a luxury. There was also brown sugar and molasses, which came from Sicily.

Chains to hang pot

Carrying handle



HANG IT
This flat-bottomed pot was hung over the fire, probably from a hook in the top of the fireplace.

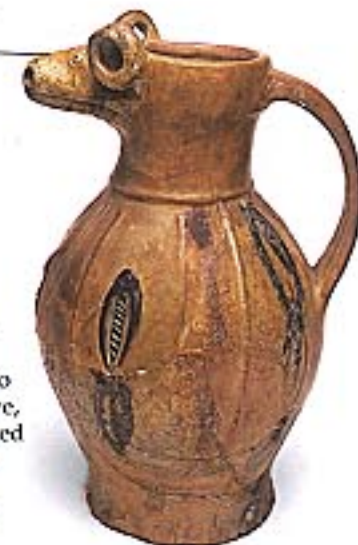
Early-15th-century hairstyle

Decorative animal's-head spout



FASHIONABLE POT
By the 13th century, pots made of iron, bronze, or copper were gradually replacing those made from earthenware. Round-bottomed ones, like this bronze laver or cauldron, were designed to be hung from chains over a fire. This one has been livened up with mouldings of animal faces. Each attachment for the hanging chain is shaped like a woman's face. The hairstyles help to date the pot to the early 15th century.

Spout in shape of animal's face



JUG
Many jugs were made of pottery, often with the green glaze typical of medieval ware. In order to make them more attractive, potters sometimes moulded faces or animals into the surface. Here there is a decorative spout shaped like an animal's head.

At table



A VARIETY OF FOODS was served in the castle hall. Beef and mutton were the main meat dishes, but venison was eaten after a successful hunt. Because there was no refrigeration, animals were kept near the kitchen until ready for slaughtering. Otherwise meat was salted to preserve it. Rich sauces were useful to disguise the taste of over-ripe meat in winter. Poultry and eggs were often eaten, wild birds of all kinds ended up on the menu, and game was popular. The meat might be eaten with onions, garlic, and herbs from the castle garden, and the most common vegetables were dried peas and beans. Fish was served on Wednesday, Friday, and Saturday, and also during Lent. Salted herrings were common, but the castle fishponds provided freshwater species too. At feasts or royal meals, more exotic items, such as peacock or crane, were served.

Phasant tail feather replaced after cooking

Plain, earthenware finish



Handle

WHAT A DISH
Some animals were made to look alive for presentation at table, for example by replacing feathers. Medieval people often liked their food to be artificially coloured with fruit or vegetable juices.

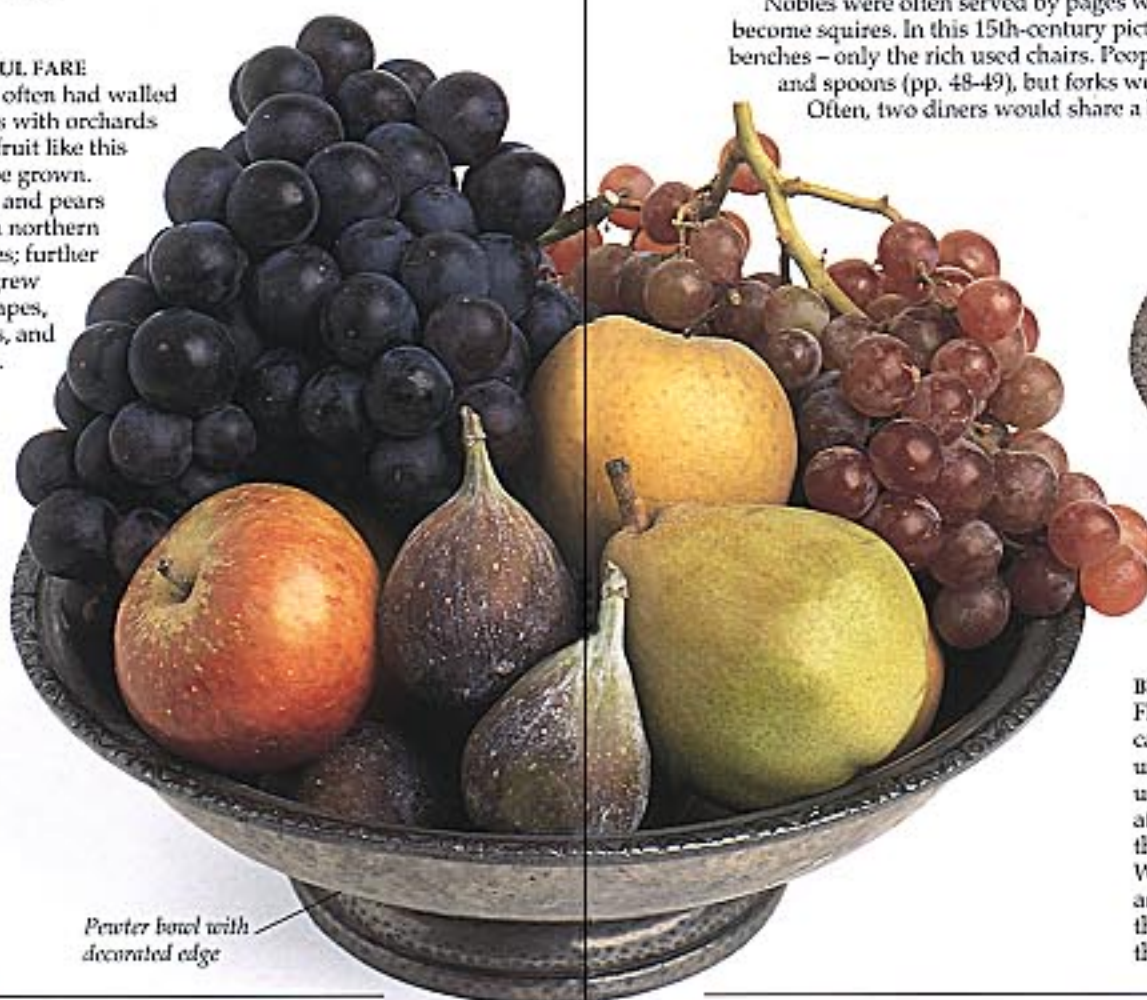
The most spectacular dish was the chef's subtlety, a mixture of sugar, paste, marzipan and jelly, painted and moulded into shapes such as castles, ships, and hunting scenes.

DRINK, ANYONE?

Crude pottery jugs were used to carry ale or wine for the ordinary diners. Hops were unknown until the later Middle Ages, so beer was made from barley, wheat, oats, or a mixture of all three. Women known as ale wives, or monks in monasteries, did the brewing.

FRUITFUL FARE

Castles often had walled gardens with orchards where fruit like this could be grown. Apples and pears grew in northern latitudes; further south grew figs, grapes, oranges, and lemons.



Pewter bowl with decorated edge

Pewter plate



BOWL
This 12th-century bronze bowl is called a Hansa bowl. The Hansa was a league of North European trading towns and these bowls were widely used. Metal bowls were cleaned after use by boiling them in bran and then rubbing vigorously with a soft cloth.

Lid shaped like human face



Animal foot

HERE'S LOOKING AT YOU

The lid of this copper-alloy jug has been made with a face staring up, and the legs have feet shaped like animal paws. A jug like this might have contained hippocras, a drink made from wine mixed with honey and herbs.



BANQUET

Nobles were often served by pages who were training to become squires. In this 15th-century picture most people sit on benches – only the rich used chairs. People had personal knives and spoons (pp. 48–49), but forks were almost unknown. Often, two diners would share a bowl or even a cup.



Rose petal

PUDDING

This is an almond milk pudding. Milk was used mainly for cooking rather than drinking, and puddings like this were considered delicacies. One was custard, a pastry case called a coffin, filled with a mix of meat, herbs, dates, ginger, vinegar, and eggs.

BREAD PLATES

Flat pieces of stale bread, called trenchers, were used as plates. They soaked up the gravy and, if uneaten afterwards, could be given to the poor or thrown to the dogs. Whole wheat bread was the most common and wastel was the finest white bread, eaten by the rich. Grain for the bread came from local manors and the bread was baked in the castle kitchen or bakehouse.



The entertainers

LIFE IN A CASTLE was not all work and warfare. Hunting and hawking were greatly enjoyed by all and brought useful additions for the table. Some outdoor pastimes were quite dangerous – there were tournaments for the knights, and bouts of wrestling or rough ball games. Adults even played children's games such as hoodman blind, when a person's head was covered and he or she had to chase the other players. To while away the hours indoors, people played board games and listened to musicians or storytellers. The storytellers recited the great heroic epics of champions such as Roland, troubadours in southern France sang of their love for ladies, and chivalric romances, such as tales of King Arthur's knights, were also popular. Much of this entertainment was provided by travelling minstrels and players, who moved around, but some kings and nobles kept a jester, or fool, to entertain them.



Hood to keep bird in the dark

Thick glove protects falconer from the bird's sharp talons

Leather jesses keep bird on the fist

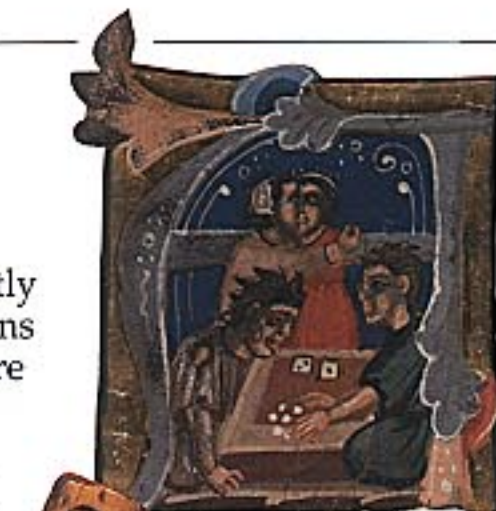
BIRD IN THE HAND
People often had a close relationship with their falcons. A lord might keep a falcon in his chamber, although they were usually kept in special buildings called mews. Some of the equipment used in falconry, such as the hood, came to Europe from the Middle East at the time of the crusades.

HAWK BELLS
Bells were attached to the bird's leg so that the falconer knew where the creature was.

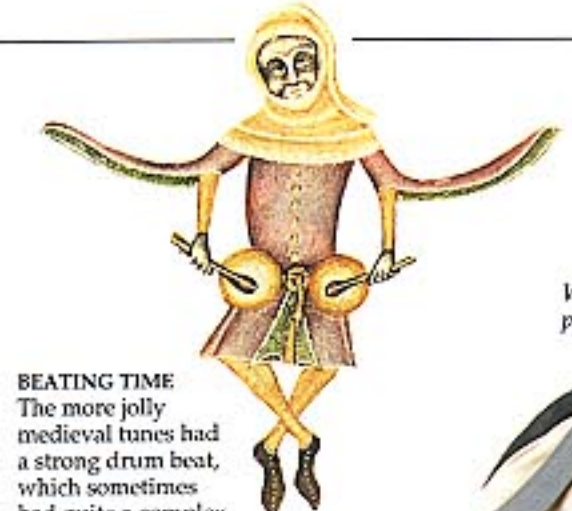
GARDENER'S WORLD
Castle gardens were usually well tended, not least because they grew herbs and fruit for the table. They were also pleasant places for lords and ladies to stroll and talk.



ROYAL PLEASURE
This lead badge shows a king riding with his falcon. All ranks of society enjoyed falconry, although some species of bird were reserved for the nobility. Falconry was a skill that had to be learned but there was a great pleasure in working birds with a decoy bird (or lure) and watching their soaring flight and their ability to plummet down through the air (or stoop) to seize their prey.



GAMBLERS
Men often gambled at dice and became quite addicted to it.



BEATING TIME
The more jolly medieval tunes had a strong drum beat, which sometimes had quite a complex pattern. These small drums, in a picture from the mid-14th-century Luttrell Psalter, are called *nakers*. A very large drum was sometimes carried on the back while someone else struck it.



HURDY-GURDY
A 14th-century musician is playing a hurdy-gurdy. This was played by turning a handle which sounded all the strings at once to produce a drone-like sound. The fingers of the other hand were then used to produce the required notes.



BALL GAMES
This 15th-century ball game with curved sticks may be an early version of hockey. The ball used was quite large and was probably made of leather.



Wooden pipe

Leather band

Hollowed-out cow's horn

MINSTREL
A 15th-century musician plays a hornpipe, so-called because its wooden pipe is connected by a leather band to a hollowed-out cow's horn. Dancing, to the accompaniment of musicians playing instruments like this, was very popular. The earliest forms involved everyone holding hands in a ring or a long chain. Later there were more dances for couples. Minstrels also sang, sometimes accompanied only by the harp. Early songs often dealt with war; later love songs and those with a religious theme became popular. There were some songs that reminded people how Jerusalem was ruled by Muslims and urging Christian crusades to win it back.



Slashed sleeves

Chequer-board pattern often worn by entertainers

WHAT A FOOL
The job of the fool or jester was to make people laugh. He might wear a cap and bells and carry a bladder on a stick (the slapstick) and his jokes could be very crude. He was sometimes allowed to say things to his master that others dared not.



Woollen tights

Women and children



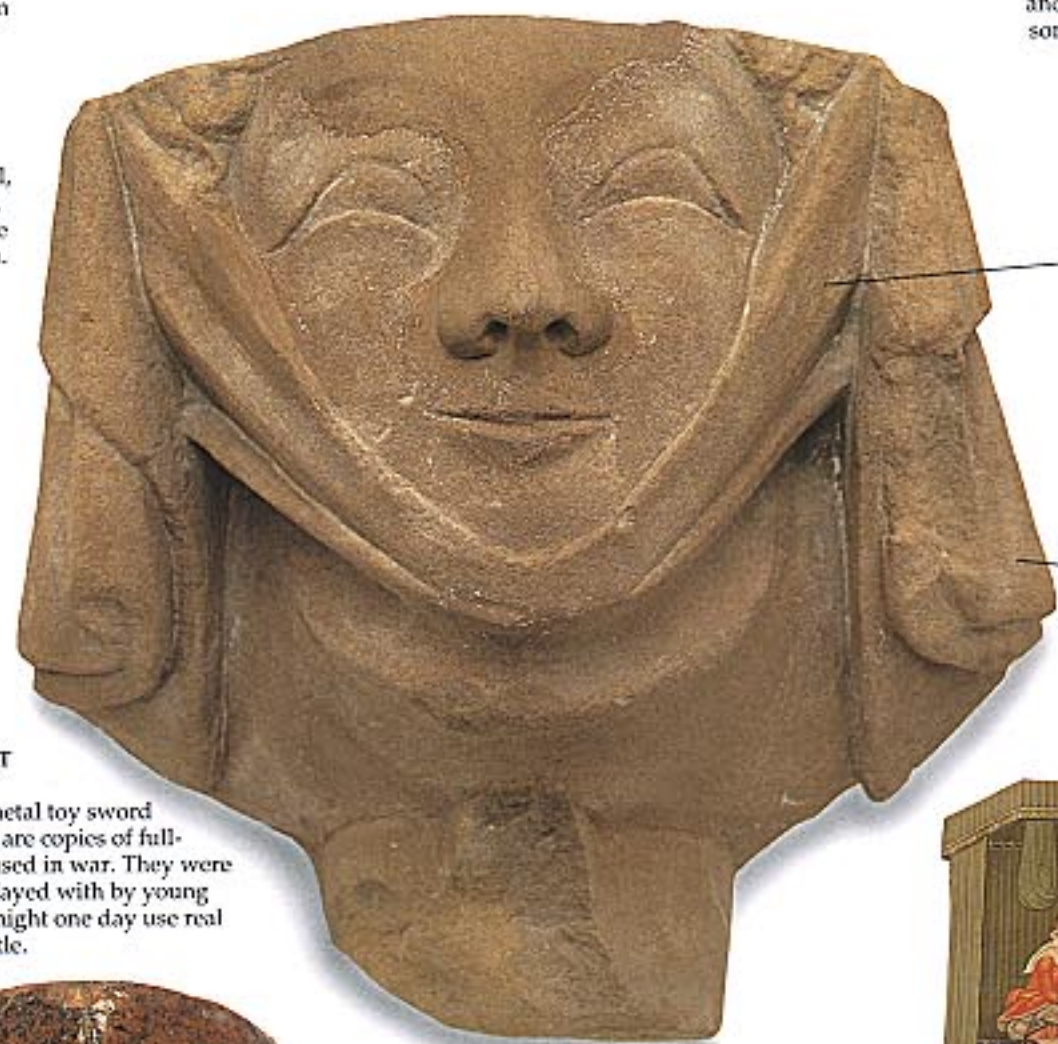
HIGH AND LOW
This 15th-century picture of a well dressed lady and a female labourer shows the differences in the classes of society. The peasant is shown, as often in pictures, digging with her back bent.

THE MOST IMPORTANT woman in the castle was the lady, the wife of the lord. The families of knights might also live in the castle, and the children of other lords might be trained there. High-ranking women had their own ladies-in-waiting to attend them and there were also female servants. Laundresses cleaned soiled clothing and seamstresses repaired it. Women of all classes learned how to spin, weave, and sew, and some ladies of rank were skilled at embroidering in gold and silver threads.



SIDE SADDLE
The Wife of Bath, from Geoffrey Chaucer's late-14th-century *Canterbury Tales*, had been married several times and showed that women sometimes had a degree of independence.

HEAD OF STONE
This 14th-century stone corbel, carved to represent a woman, once jutted from a wall to take the weight of an arch or beam. The woman wears a wimple, a piece of linen which passed under the chin. The wimple was popular throughout the Middle Ages and was often worn with a veil. Married women often covered their hair as a mark of their position and age.



Wimple, fastened to the hair by pins

Veil



PLAYING AT SOLDIERS
This little metal toy sword and helmet are copies of full-size items used in war. They were probably played with by young boys who might one day use real arms in battle.

Sword



Helmet

Children

When only about seven, a boy from a noble family might be sent to a castle, often that of a relative, to become a page and learn good manners. After about seven years he would begin to train as a squire, perhaps being knighted when about 21. Girls were also sent to another castle to be taught by the lady in the arts of sewing, home-making, and how to behave correctly – especially in front of the gentlemen.



BRINGING UP BABY
Childbirth was often dangerous, for medical knowledge in the Middle Ages was limited and standards of hygiene were low. Many mothers and babies died but families were still often large. Noblewomen sometimes gave their babies to wet-nurses to breast-feed rather than doing this themselves.



THE LADY
This lady of the early 15th century would run the household in her husband's absence and check his nearby manors. She also had to entertain visitors to the castle, greeting them at the gate and being there to say farewell. She was in charge of the castle kitchens and the menu, although she would not normally cook the food herself. In her spare time she would enjoy hunting, dancing, and playing chess and other board games.

TOGETHERNESS
Knights and nobles often married an heiress for her land. In spite of this inauspicious start, couples often grew close. People of lower rank had a wider choice of partner, although anyone with a lord normally had to get his permission to marry.



Late-13th century English gilt brooch

Sapphire

Ruby

English cross-brooch

HARD SOLE
Pattens had solid, raised wooden soles and could be slipped over ordinary leather shoes if the weather was bad. They were useful when rain made tracks and roads very muddy.



Leather strap

Solid wooden sole



CHRISTINE DE PISAN
This well-educated woman wrote poems and other works in the late 14th century and became a professional writer in the early 15th century.

Train

Padded roll over net

Plackart

Kirtle

Tight-fitting sleeve

Sideless surcoat



Portrait of Edmund on his throne

KING'S COIN
This gold coin is a bullia, made for Edmund, King of Sicily.



Dogs like greyhounds were valued hunting companions



HOMECOMING
A 14th-century knight returns home. He is wearing a large steel helmet called a basinet. A look-out watches from his lofty perch in a high tower.

PERSONAL ITEMS
A lord would usually have his own cutlery, which might be kept in a leather case. These are two of a set of four knives which are decorated with the heraldic arms of John the Fearless, Duke of Burgundy.



Carving knife

Eating knife

Enamelled arms, used between 1371 and 1404



KEEPING FIT

The lord was a knight and was expected to fight for his king if necessary. Many practised by taking part in tournaments, where mounted knights fought in front of admiring ladies. Knights could enter either the team game (the tourney) or single combat with lances (the joust). In this 15th-century picture, two knights have shattered their lances against one another and are fighting with swords.

The lord

A CASTLE WAS HOME TO A LORD, who could be anyone from a minor baron to the king himself. A large castle could be used as an administrative base by a powerful lord, who could also live there in comfort. The lord's rank meant that he enjoyed the luxury of privacy, with his own chamber. Kings and great lords, who had several castles and houses, would appoint an official called a castellan to run the castle in their absence. But if during a siege the castellan felt it necessary to surrender, the laws of war said that he should first send word to his lord for permission to do so. The king would also entrust some of his castles to local officials such as sheriffs, who could govern part of the country using the castle as a base. Such castles were usually built in towns and would often be connected to the town walls.

HAT TRICK

This lord wears a chaperon, a distinctive 15th-century hat. It developed from the hood, with the face-opening worn on the top of the head. The long "tail", originally the back of the hood, is called a liripepe.



IVORY CASSET

Caskets contained personal possessions and came in various sizes. This French example is made from ivory and is carved with scenes from the Romance of the Chateleine de Vergy. It was made in the second quarter of the 14th century.



DISPLAY

Lords displayed their wealth not only on themselves but also on their family and retainers. This early 15th-century buckle, found at Chalcis in Greece, is made of silver.



Linen shirt

Woollen hose

UNDERWEAR

In the 14th and 15th centuries a man would wear a doublet beneath his gown. Under the doublet was a shirt. In contrast to the outer garments, the shirt was quite plain and functional. Because it was worn next to the skin it was made of linen, to prevent itching. Woollen hose would be attached to the lower edge of the doublet by small laces called points.

Pointed leather shoes



Collar of linen shirt

Collar with badge

Pendant with badge

Bagpipe sleeves

Velvet gown

Belt carrying purse

Silver

THE LORD
Men who looked after small castles, particularly in the unsettled period between the 10th and 12th centuries, were not always too fussy about their dress. But those in charge of larger castles were often keen to impress with the richness of their clothes, especially on formal occasions such as feasts or a royal visit. This 15th-century lord wears a long formal gown called a houppelande.

Gilt decoration covering silver metal



SHOWING OFF
This early 14th-century mount is made from gilt silver and was worn on a belt. Like the buckle at the top of this page, it was found at Chalcis in Greece.

Fabrics and textiles

IN THE MEDIEVAL PERIOD people usually made their own clothes, either spinning and weaving the cloth themselves, or buying linen in large amounts and making up garments when needed. Wool was the most common textile, and was often woven with goat's hair to make chamlet, an ideal material for making clothes. The rich might wear garments of more expensive cloths, such as linen or silk. Everyone wore underclothes of linen, because they were comfortable next to the skin. Varieties of silk increased during the Middle Ages, with types called samite, damask (from Damascus), and taffeta becoming available.



DYING FOR A LIVING
Cloth could be coloured by soaking it in a tub filled with a natural dye. Such dyes were usually made by boiling the roots or leaves of certain plants in water. Buttermilk (the liquid fat left after making butter) was a useful whitener.



CUT A DASH
Wool was sheared from the sheep using large shears. Smaller versions would be used to cut the cloth. Unlike scissors, which have two arms that pivot at the centre, the arms of shears are joined at one end and they cut when the two arms are pressed together so that the blades slide over each other. The rounded end of the shears is springy, and the blades open automatically when released.



WORKING WITH WOOL
Once sheared from the sheep and washed, the fleece was carded – stroked with a toothed tool to untangle it and make the strands point in one direction. These strands were then wound around a distaff and fingerfuls of wool pulled away and twisted into a thread.

Leatherworking

Shoes, saddles, clothing, scabbards, belts, and straps for pieces of armour were just some of the items made from leather. Moulded leather was even used to make pieces of armour, as an alternative to steel. It was also used to make jugs and buckets. Many leather objects were skilfully decorated with cuts, pricked, or moulded designs.



AT WORK
This 15th-century picture shows leatherworkers at their trade.



SHARP BLADE
This knife was used for cutting through hide. The leatherworker moved the handle back and forward so that the whole blade sliced through the leather. Leatherworkers still use tools like this today.



SPINNING A YARN
Most girls and women were taught to spin. This 14th-century woman is using a spindle wheel. With this device, a push of the large wheel keeps the distaff turning, so that the yarn winds on to it as it is pulled out into a thread. This technique could be used to produce different grades of yarn. Coarse wool, such as blachet, was used for items like bed covers. The coarsest types, russets and burels, were used mostly by the poor. Woollen yarn was woven into cloth on a loom. Knitting only began in the 15th century and in some places only became a craft a century later.



Drive thread connects distaff with large wheel

Worker's hand pulls fleece out into a thread

Fleece

Pushing this large wheel around makes the distaff turn



SOWING
Seed was carried in a bag or pouch and scattered over the earth by hand. Birds often managed to take some of the seed for themselves.

In the fields

THE PEOPLE WHO LIVED and worked in a castle had to eat, and horses and hunting dogs had to be fed. Much of the food was grown in the surrounding fields, which belonged to the lord of the castle. The workers who tilled these fields lived in villages nearby. In times of trouble they and their animals could seek shelter within the castle walls. Producing food was hard work in the Middle Ages. It meant getting up very early in all weathers, at all times of the year, in order to plough the fields, sow the seed, and harvest the crops in autumn. In sunny areas vines were grown to produce wine. Beer brewed from barley was popular in northern Europe; the water was so dirty that drinking it could make people very ill.



PLOUGHING
The iron ploughshare turned over a furrow in the earth ready for planting crops. Usually the plough was pulled by oxen. Eight animals were sometimes used, but generally it was four or less, as shown on this 14th-century tile. The peasants joined together to provide enough animals to pull the plough.



PRUNING
In March the vines were pruned with a short-handled billhook, which could cut the branches back to ensure good growth.



WINNOWING
This miniature, from the early 15th-century *Très riches heures* of the Duke of Berry in France, shows the month of June. It is represented by men using scythes to cut the hay and two women tossing up the hay to winnow it. The hay provided winter fodder for cattle.



WINE
The vines are being carefully tended in this 15th-century Flemish picture. Once ripe, the grapes were picked and packed in large casks where barefoot workers trod them to squash out their juice. This was collected and left to ferment until it formed wine.

HARD WORK
This 15th-century illustration from the *Book of Hours* of the Duchess of Burgundy shows the task for March: hoeing the ground to break up the topsoil for planting.



AXE
A multi-purpose tool, the axe could be used for felling small trees, for chopping up firewood, or for cutting logs.

PITCHING IN
The pitchfork had two prongs, called tines, and a long wooden shaft. It was mainly used for thrusting into sheaves, or bundles, of hay, and pitching them up on to a wagon.



BILLHOOK
This tool was used for pruning. It had a long cutting edge and a "beak".

SON OF THE SOIL
The peasant was not usually allowed to leave the land his family worked. He was a serf or villein, which for some was little different from being a slave, except that medieval peasants had to feed themselves from what they grew. The lord took a percentage of the crops for himself and the peasant had to grind grain in the lord's mill, for a price. A peasant's life was often very hard. He was dependent on the weather, and ruined crops meant famine. The Black Death killed many peasants in the 14th century and they became more valued by the upper classes as a result of this.



Leather cap

Coarse woolen tunic

Leather bag

Warm woolen hose

Tough leather boots for hard work



SICKLE
The sickle was used to cut crops in July, the stalks being left half-cut to provide straw for cattle. The wheat or barley would then be threshed to separate out the grain, which the miller ground down to make flour for bread-making.

Ears and grains of emmer wheat

HEAVE!
This 14th-century haycart is being pushed uphill. Solid collars on the horses enabled them to pull without choking.



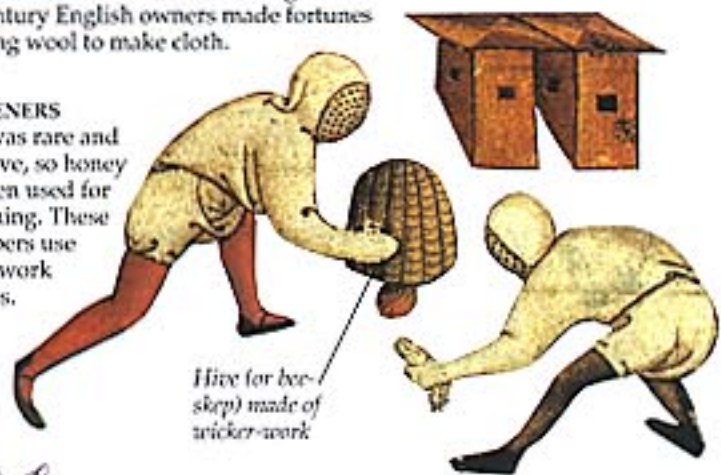
Animals in the castle

A CASTLE NEEDED ANIMALS to provide food for the occupants. Some animals could be kept in the courtyard, others grazed in the fields and were brought in at night or at times of danger. Many of the animals would be killed as winter came – there would not be enough fodder to feed them all until the spring. The carcasses would be salted or smoked to preserve them and hung in storerooms. Medieval farm animals looked different from those of today. Medieval animals were smaller and gave less meat, milk, or wool than their modern counterparts. But some of the old breeds have survived, or have been “bred back”, and show what these animals were like. To add variety to the table, wild animals were hunted as extra food.



COTSWOLD SHEEP
Medieval sheep were smaller and thinner than sheep today and their meat would probably have been less tender to eat. But they were very useful animals. Their skins were used to make parchment for writing on and their wool was vital for clothing. In the 15th century English owners made fortunes by selling wool to make cloth.

SWEETENERS
Sugar was rare and expensive, so honey was often used for sweetening. These beekeepers use wicker-work beehives.



Hive (or beehive) made of wicker-work

MONTH BY MONTH
This 12th-century ivory games counter is part of a set. Each one shows familiar country scenes that portray different months of the year.



Zodiac sign of Aries the ram
January represented by a man carrying sticks

BAGOT GOAT
Goats provided milk and were unfussy eaters in the castle courtyard. Bagot goats probably arrived in Europe in the 14th century, brought by crusaders returning from the Holy Land. Their name comes from Sir John Bagot, to whose park they were presented. In 1380 a goat's head was added to the Bagot family's coat-of-arms.



Long, curved horns

Long, shaggy hair keeps goat warm in winter

FRESH EGGS
Chickens could be left to scratch around inside the castle courtyard. They might be tied to a peg to stop them wandering.



PORKER
Medieval pigs, like those before them, were much more like wild boars in shape and were nowhere near as fat as modern pigs. In medieval England they were not only useful for providing pork, they were sometimes trained as retrievers, like modern dogs, and were used when poaching.



Dark, hairy skin, like that of a wild boar



CONEY
Rabbits were caught for food, and for their fur, which was called coney. A ferret was put down one hole and the rabbit caught in a net as it bolted out of another. Rabbit burrows or warrens were specially set up, and looked after by an official who was called a warrener.



PHEASANT
The Romans probably introduced pheasants to England. People hunted them with bows or falcons to provide a source of additional food.



PANNAGE
To overcome winter food shortages, pigs could be driven into the local woodland in November. Here, as this 15th-century picture shows, people knocked down acorns from oak trees for the pigs to eat. The pigs also liked beechmast. The right to pasture pigs in a forest was known as pannage.



Wide horn span – horns were left uncut in the Middle Ages

Attractive brindled coat

LONGHORN
Unlike the cattle of today, whose horns are removed for safety, medieval cattle could have very long horns indeed. Longhorn cattle may be descended from the wild cattle first domesticated in the Stone Age. Cattle provided meat, and their hides were tanned to make leather. The steers were harnessed to a plough by a wooden yoke (horses were not often used for this task). The cows were milked, as were ewes and she-goats.

Udder – cattle were a source of milk as well as meat

The castle builders

ONCE A SUITABLE SITE with fresh water was found, the lord employed a master mason, often on contract, to help plan and build the castle. Such highly respected men would employ a clerk to sort out the accounts and obtain building materials. The master

mason would take charge of the building work. Under him were an army of workers. Hewers cut the stone at the quarry; freemasons cut the fine blocks of building stone (known as ashlar) and carved decorative mouldings; roughmasons and layers built the walls. There were many other workers doing specific jobs, from carpenters to well-diggers, smiths to stone-porters.



STONE ME
A 13th-century mason wearing a cloth coif on his head shapes stone blocks while a basket of stone is sent up to the workman waiting at the top of the building.

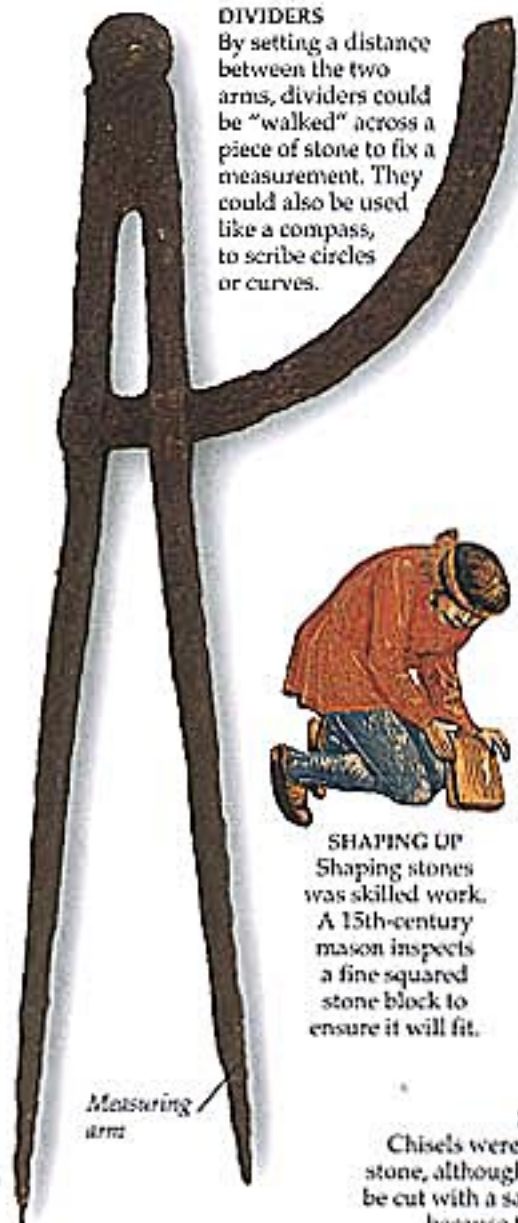
CROWBAR
Heavy blocks of stone needed to be manhandled from quarry to building site and into their final position.



CHISELLING IT OUT
From the 12th century on, chisels were used more and more, replacing axes for stone-cutting. Masons used a mallet and chisel to carve decorative designs into stone.



DIVIDERS
By setting a distance between the two arms, dividers could be "walked" across a piece of stone to fix a measurement. They could also be used like a compass, to scribe circles or curves.



SHAPING UP
Shaping stones was skilled work. A 15th-century mason inspects a fine squared stone block to ensure it will fit.

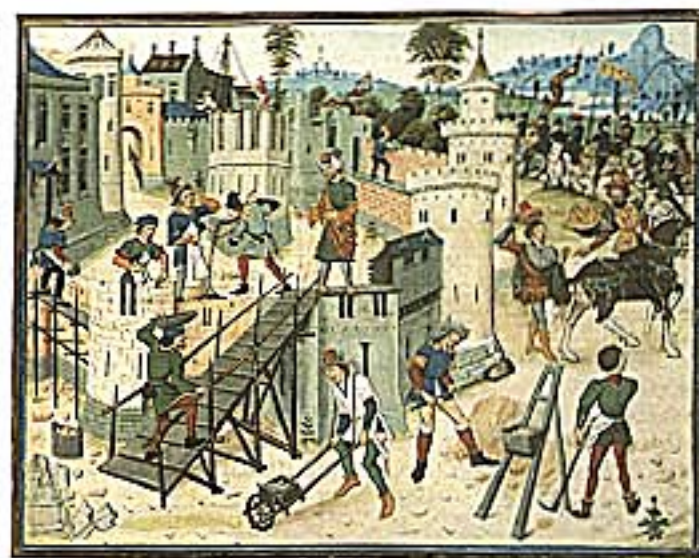


MASON'S CHISEL

Chisels were used for cutting and dressing stone, although some stone was soft enough to be cut with a saw. A smithy was needed on site because the tools wore out quickly.



TROWEL
Mortar was mixed and laid on with a trowel. It was made by mixing sand and lime; the latter was sometimes provided by burning limestone on site. Mortar bound together the rubble walls of rough stone and the fine ashlar facings. It was also used in building the brick castles which appeared in the later Middle Ages.



MEN AT WORK
Workers supply stone blocks using a wooden ramp and a type of wheelbarrow. Often rough stone-and-mortar walls were faced with ashlar. If the whole wall was not faced, ashlar would be put around doors, windows, and loopholes.



STRAIGHT MAN
A lord talks with his master mason, who carries a plumb line. The lead weight on the end keeps the line hanging straight down, so one can check verticals.

Plumb line

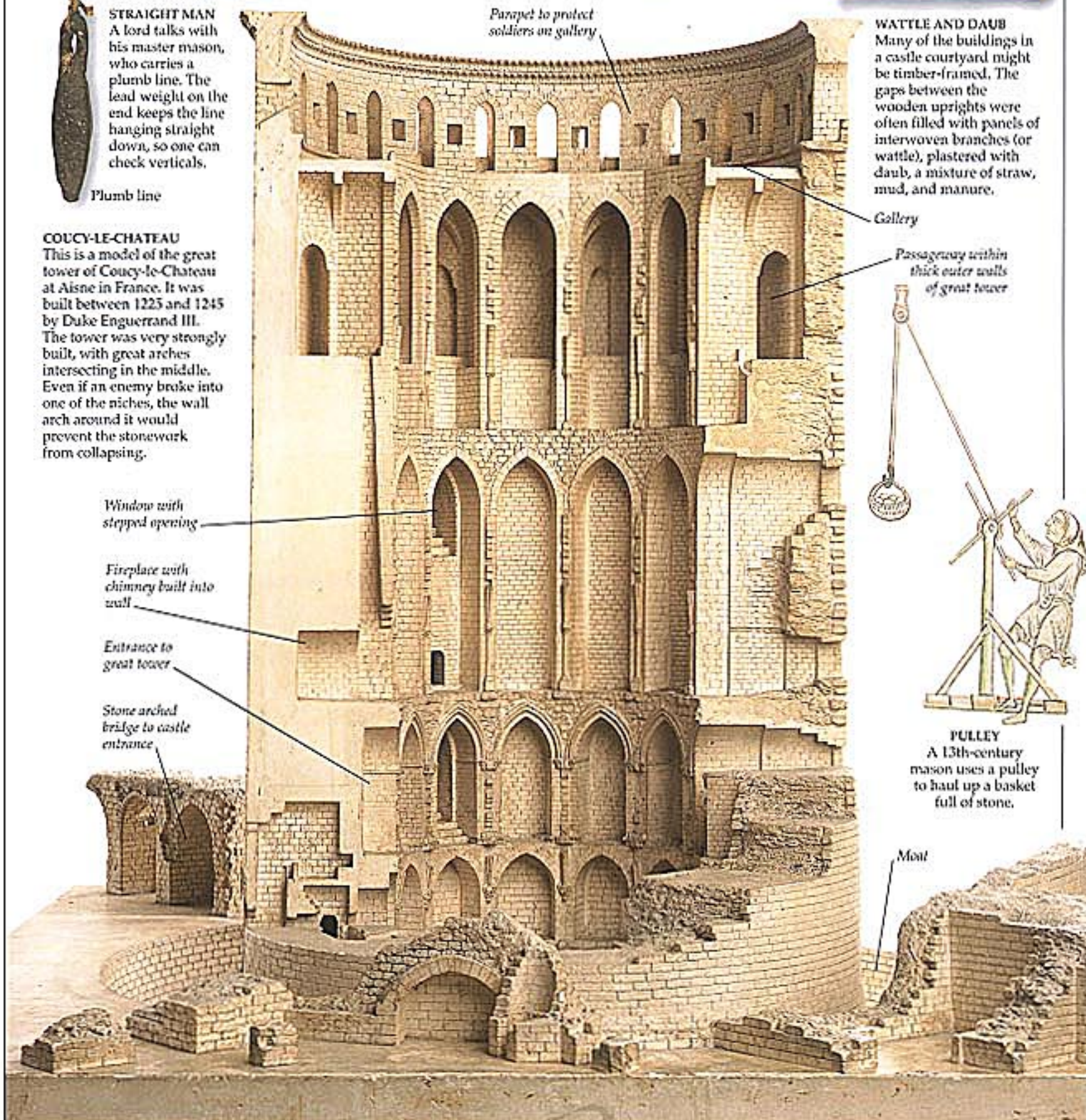
COUCY-LE-CHATEAU
This is a model of the great tower of Coucy-le-Chateau at Aisne in France. It was built between 1225 and 1245 by Duke Enguerrand III. The tower was very strongly built, with great arches intersecting in the middle. Even if an enemy broke into one of the niches, the wall arch around it would prevent the stonework from collapsing.

Window with stepped opening

Fireplace with chimney built into wall

Entrance to great tower

Stone arched bridge to castle entrance



Parapet to protect soldiers on gallery

Passageway within thick outer walls of great tower



PULLEY
A 13th-century mason uses a pulley to haul up a basket full of stone.

Moat

VAULT

In order to carry the weight of a stone roof, builders of the Norman period used a tunnel effect called a barrel vault. By crossing two of these at right-angles a groined vault was made. Here we see the outer part of the vault as it rises upwards from a corner.



Groin

Wattle (interwoven branches)

Daub (a mixture of straw, mud, and manure)



WATTLE AND DAUB
Many of the buildings in a castle courtyard might be timber-framed. The gaps between the wooden uprights were often filled with panels of interwoven branches (or wattle), plastered with daub, a mixture of straw, mud, and manure.

Gallery

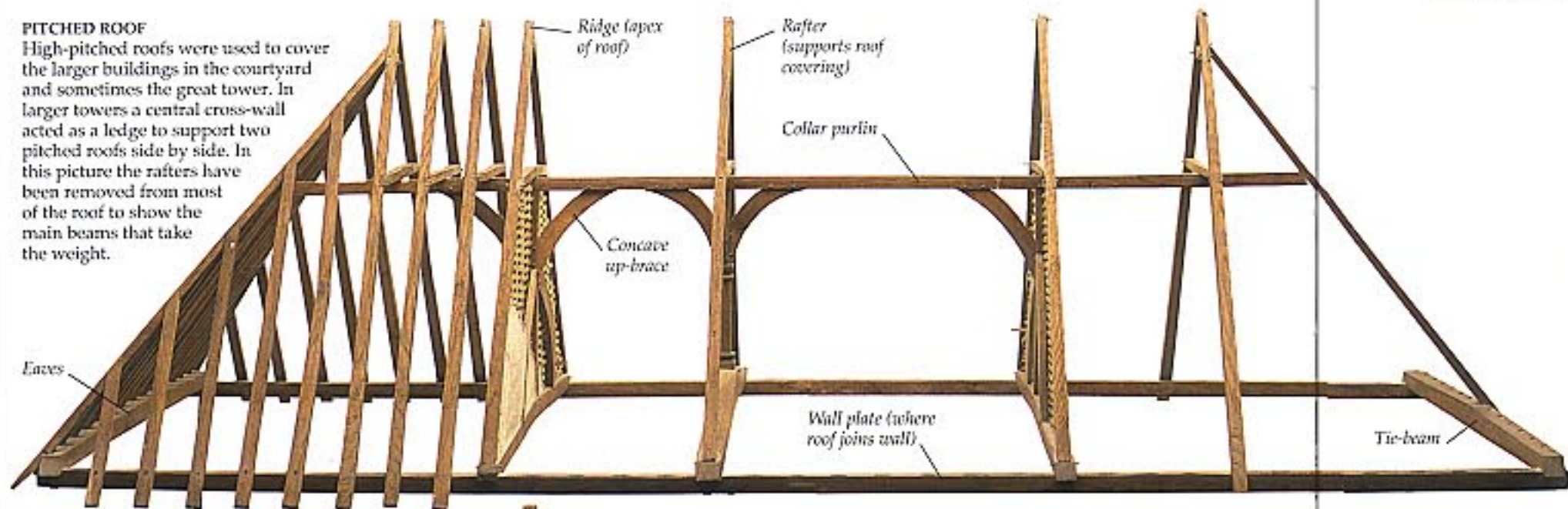
The woodworkers

WOODEN CASTLES were far more common than those of stone before the 12th century. Professional woodworkers were needed to cut the timber for palisade fences and walkways, the gate tower, motte tower, bailey buildings, and sometimes facings (called revetments) covering the slope of the motte and the bailey ditch banks. When stone castles became popular, some of the defences might still be made of wood. In addition, large amounts of wooden scaffolding were needed as the building rose up. Courtyard buildings were often made of wood or built with a wooden frame. Even in stone buildings wood was used for roof and ceiling beams and floors. Inside, carpenters made doors, shutters, partitions, panelling, and furniture. During a siege they would make catapults and other engines (see pp. 24–25) to help defend the castle.

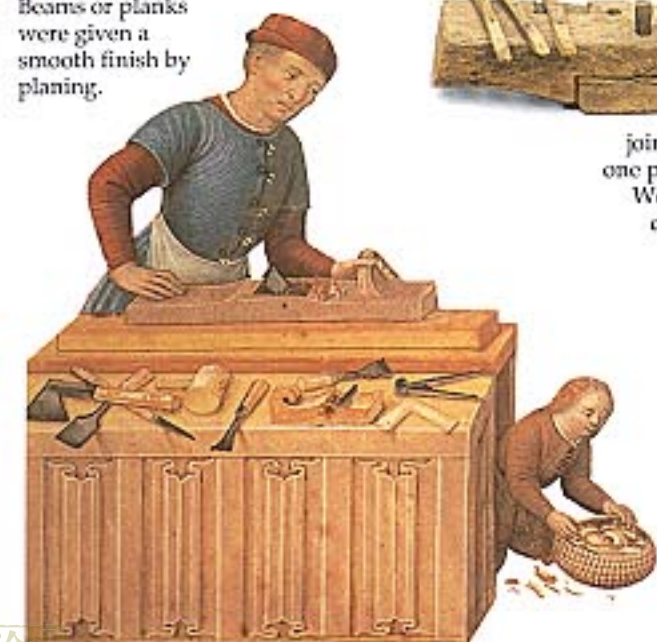


HOARDINGS
Removable wooden hoardings were supported on beams pushed into holes called putlog holes below the battlements.

PITCHED ROOF
High-pitched roofs were used to cover the larger buildings in the courtyard and sometimes the great tower. In larger towers a central cross-wall acted as a ledge to support two pitched roofs side by side. In this picture the rafters have been removed from most of the roof to show the main beams that take the weight.



PLANE TO SEE
Beams or planks were given a smooth finish by planing.



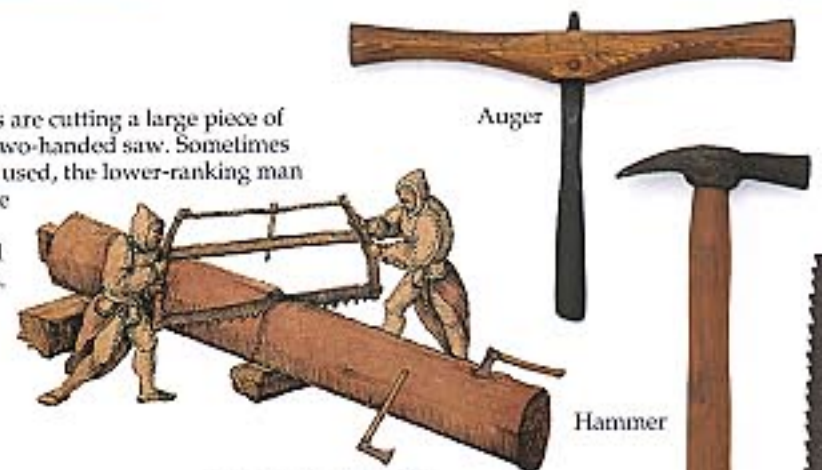
HOLD IT
Several methods were used to connect pieces of wood. Usually a joint was made by cutting the ends so that one piece fitted snugly into or over the other. Wooden pegs were hammered through drilled holes to strengthen the bond.

WOODEN LEAVES
This door has two leaves or panels. Main castle doors were made of massively thick planks, sometimes strengthened by iron bands. They were held shut by locks and wooden drawbars, beams which slid into holes in the wall to bar the door. Two-leaved doors might instead be secured by a pivoting bar attached to the door by a central pin.



BAD WORKER
This early 14th-century tile from Tring, England, shows a master craftsman telling off a worker for cutting a beam too short. Workers of various professions were organized into guilds, with rules and standards of quality to be kept up.

SAW POINT
These sawyers are cutting a large piece of wood with a two-handed saw. Sometimes a saw-pit was used, the lower-ranking man standing in the pit, where he was showered with shavings.



TOOLS OF THE TRADE
The tools used by medieval carpenters were very similar to those of today. The auger was twisted around to bore holes; the hand saw cut small pieces of wood. The metal parts were made by a smith (pp. 60–61).

CARPENTER
Skilled woodworkers were always in demand because of the large number of objects made from this material. Unlike today, large areas of countryside were covered in woodland and forest, and timber was carefully managed to make sure supplies were always to hand. Once a castle was built there was always need for a carpenter to repair or replace damaged items, or woodwork damaged by insects, fungus, or damp.





CLOSE WORK
If a seamstress needed a thimble to protect her finger, a metalworker had to make it. This one might have been bought from a market, a shop, or a travelling merchant.

Metalwork

METALS OF ALL KINDS were used in castles. Iron was needed for a number of different everyday things, from horse shoes and harnesses to parts for siege engines, door hinges, tools, and hoops for barrels. Nails, both large and small, were used in their thousands for joining wood to construct palisades, wooden buildings, and parts of buildings such as roofs and doors. All these items had to be made by a metalworker (or smith) in the castle itself. The lord would frequently buy armour for himself and his knights from local merchants. A rich lord might even have some of his armour made abroad. But weapons and armour were in constant use. They were damaged in training and rivets would work loose. The castle armorer repaired damaged equipment.



STRIKING A POSE
The smiths in this 15th-century manuscript are busily hammering metal into shape over a solid iron anvil, their tools hanging behind them. Some anvils had a "beak" at one end, which was used to shape metal objects like horseshoes, but the anvil used by armourers was often a simple cube of iron. Most smiths' workshops were housed in a separate building to reduce the risk of the rest of the castle catching fire.



ARMED AND DANGEROUS
Armour and weapons like those of this 16th-century knight were often damaged in battle or tournament. An armorer who could do repairs, replace loose or broken rivets, and make pieces of mail and plate armour when needed was a valuable asset in a castle.



A SNIP
Snips were for cutting sheets of metal to give a basic shape to work on.



HOLD ON
Tongs were for holding metal when it was being hammered, especially when it was red hot.



NIPPERS
The pincers could cut through wire. They have a pivoting loop handle to hold them closed.

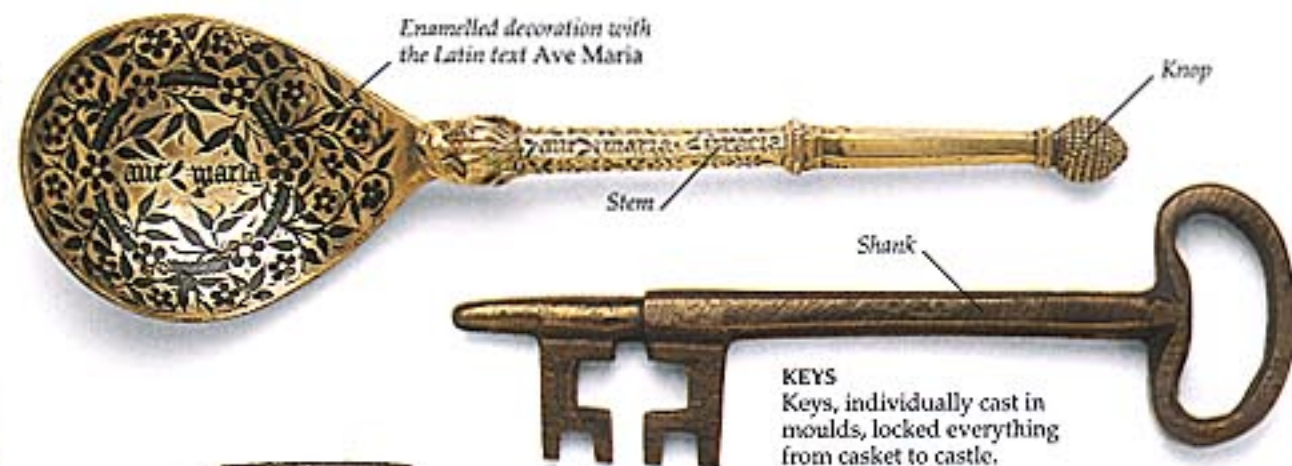
Metal tools

These medieval tools are little different from those used today. Armourers had extra tools, such as a huge pair of snips, set vertically with one end fixed to a block, to cut sheets of steel for making plate armour.

COPPER
A smith shapes copper in this 14th-century manuscript. Softer than other metals, copper was used for decorative work.



TABLEWARE
Each diner had a personal spoon that had to be specially made. Like this 15th-century example, many were made from copper-alloy. Wealthy people had silver cutlery.



Enamelled decoration with the Latin text Ave Maria

Knop

Stem

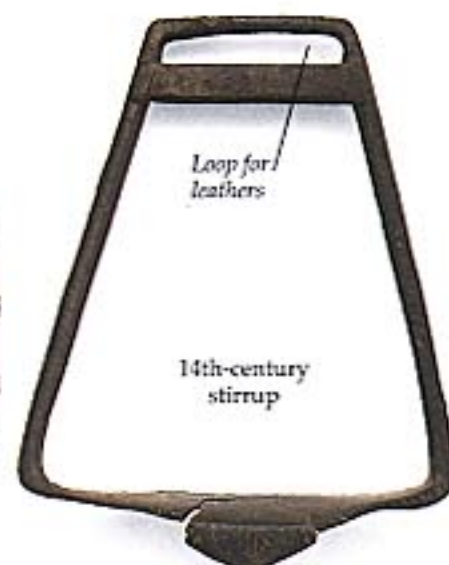
Shank

KEYS
Keys, individually cast in moulds, locked everything from casket to castle.



Typical early curved shape

11th-century stirrup



Loop for leathers

14th-century stirrup



11th or 12th century horseshoe

WELL SHOD
Horseshoes were a necessity of life until the 20th century. The shoes protected the horse's hooves and so enabled the horse to move over rocky or stony ground. Some medieval shoes had a bump (or calkin) at either end, which helped the horse to grip. All this was very important for mounted knights who needed to ride anywhere in order to defeat their enemies.

STIRRUPS
These were an essential part of a knight's equipment. They were worn with long straps (or leathers) so that the knight rode straight-legged. This, together with a high-backed saddle, made him difficult to unhorse in battle. Civilians sometimes used stirrups for everyday riding, and as time went on stirrups became the rule.

Molten metal poured in here



FORGE
This 19th-century picture of a forge shows that metalworkers were still using similar tools and techniques as their medieval counterparts.

MOULDED
Some items were made by melting metal and pouring it into a mould. This 15th-century figure is made from lead, which melts at a low temperature and was therefore easy to cast in this way. Lead was often used for making badges.



Figure



Mould



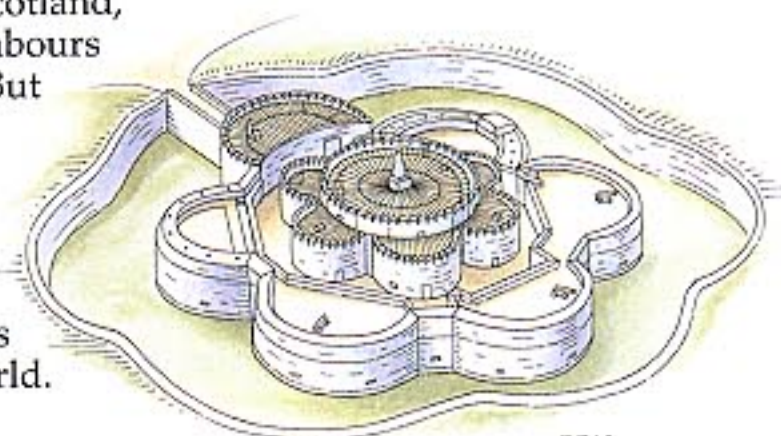
EXPLOSIVE PIONEER
Roger Bacon was a Franciscan monk who lived in England and France in the 13th century. He was particularly well known for his writings on science and technology and was the first western writer to describe how to make gunpowder. His recipe appeared in a book published in 1242.

Castles in decline

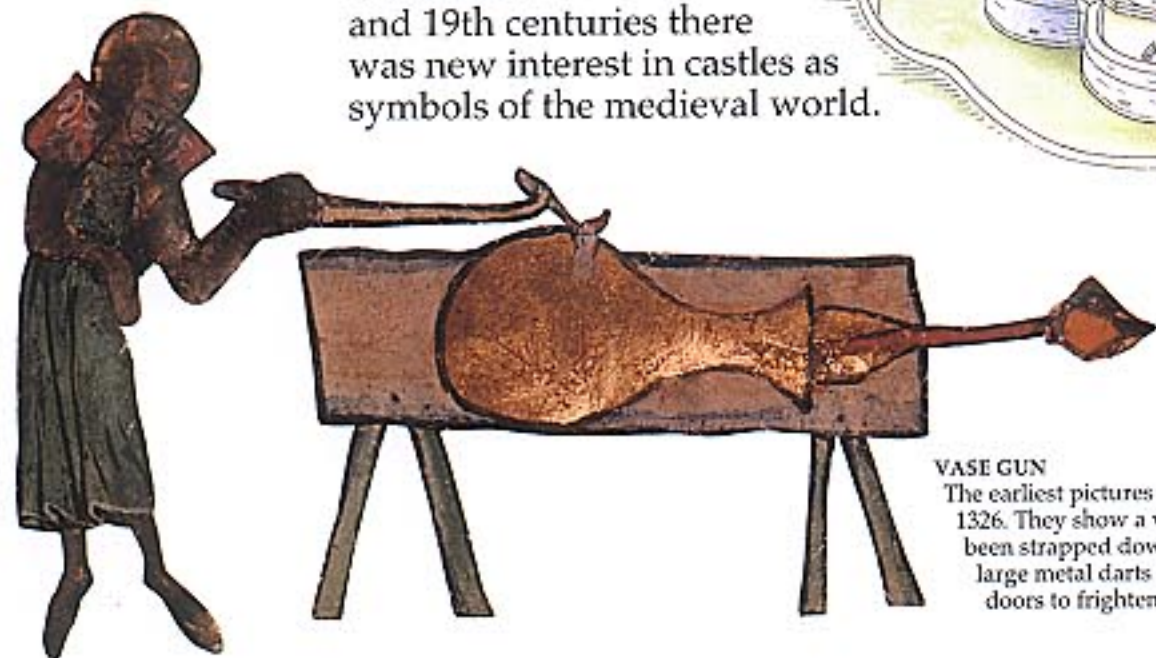
BY THE END OF THE 15TH CENTURY, castles were losing their military importance. Societies gradually became more stable, and people demanded more comfortable living conditions. Gunpowder appeared in Europe in the early 14th century, but did not have any great effect on castles at first – they were still being built 200 years later. From the 16th century on, some castles continued in military use, especially in danger areas like Austria, a buffer zone protecting western Europe from the Turks. Other castles were used as army barracks. Fortified tower-houses were still built in places such as Scotland, where riots or raids by neighbours made protection necessary. But many castles fell into ruin, their stones being stolen and used in buildings elsewhere. In the 18th and 19th centuries there was new interest in castles as symbols of the medieval world.



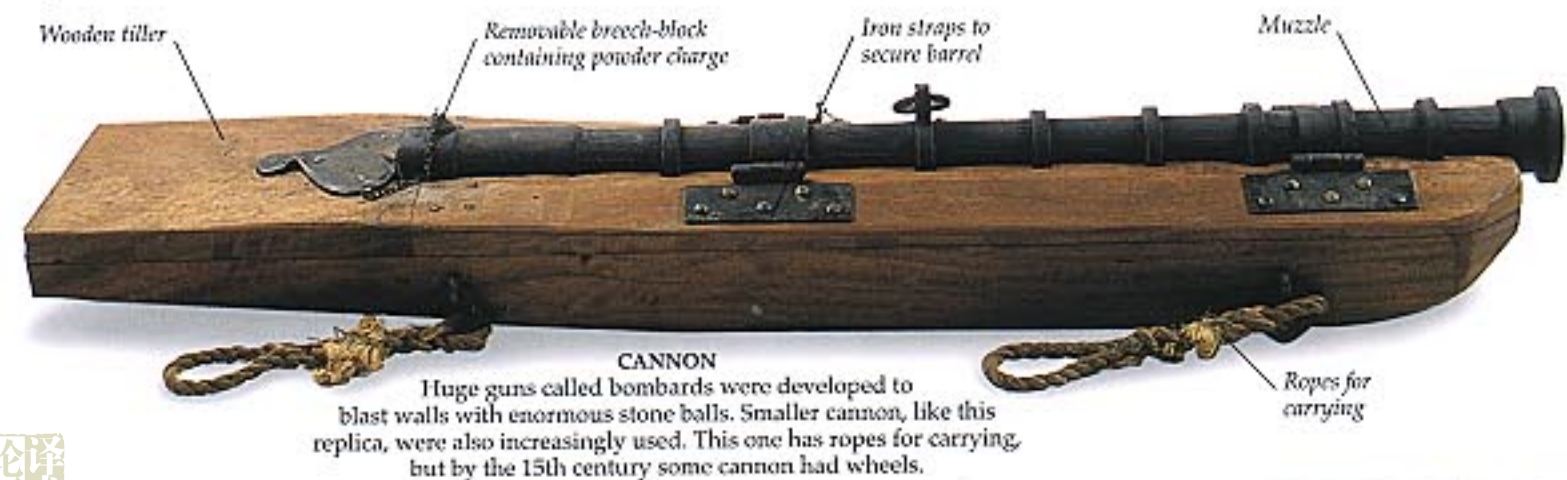
TURKS ATTACK
In 1453 the Turks managed to break into the heavily fortified city of Constantinople (now Istanbul), which was one of the last strongholds of the Christian Byzantine empire. The formidable walls were attacked by land and sea, and the Turks used numerous guns to make holes in the walls.



DEAL
The fort at Deal, England, was built by Henry VIII in the 1530s as part of a chain of similar defences on the English coast. The low, rounded gun platforms present less of a target to cannon and deflect enemy missiles, but fortifications using arrow-head shaped bastions were already taking over in Europe.



VASE GUN
The earliest pictures of cannon are English and appear in 1326. They show a vase-shaped object which would have been strapped down to a wooden stand. Such guns shot large metal darts and may have been aimed against doors to frighten defenders from coming out.



CANNON
Huge guns called bombards were developed to blast walls with enormous stone balls. Smaller cannon, like this replica, were also increasingly used. This one has ropes for carrying, but by the 15th century some cannon had wheels.



FAIRY-TALE CASTLE
The German castle of Neuschwanstein was built by King Ludwig of Bavaria in the late 19th century. It is one of several 19th-century castles created by people who were influenced by a romantic image of the medieval world.



Notch in which to rest gun
Copy of late 14th-century handgun
Iron barrel
Steel kettle-hat
Steel buckler or fist-shield
Coat-of-plates, a garment lined with steel plates riveted inside
Wooden prop
Heraldic badge to identify the lord of this marksman
Wooden pavise or portable shield
Steel spike to stop shield slipping

HANDGUNNER
Early hand guns were fired either by a hot wire pressed against the touch-hole, or by a glowing slow match made from cord soaked in saltpetre (potassium nitrate). Some guns had a lug on the bottom to hook over walls and absorb recoil. Inside a castle, guns could be fired through round loopholes in the walls or long horizontal slots for larger weapons, which could be fired at a besieger's cannon or earthworks. Later, guns were often arranged in groups, and this technique led to the building of forts designed to hold batteries of guns. Unlike medieval castles, these forts were usually built and run by the state.

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