

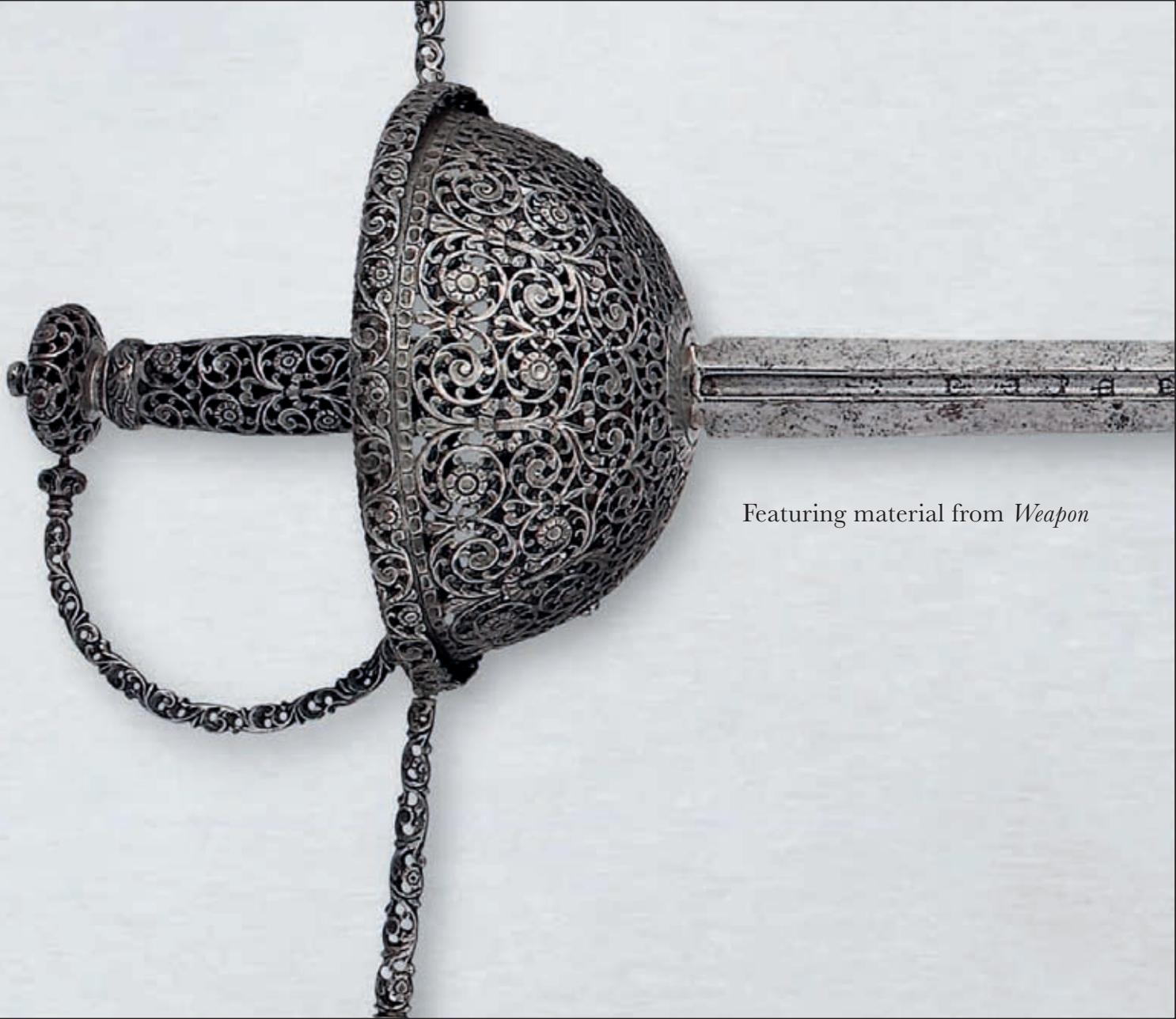
KNIVES AND SWORDS A VISUAL HISTORY

Featuring material from *Weapon*





**KNIVES
AND SWORDS
A VISUAL HISTORY**



Featuring material from *Weapon*



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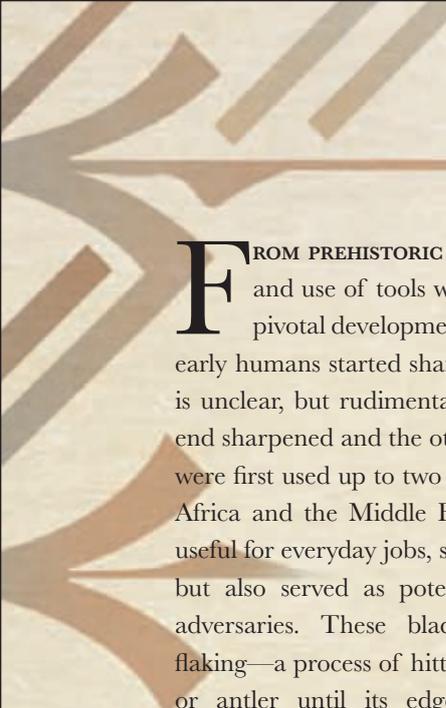


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ANCIENT
BLADES
3000 BCE—1000 CE



FROM PREHISTORIC TIMES TO 1000 CE, the creation and use of tools with sharp edges was one of the pivotal developments in technology. When exactly early humans started sharpening rocks into cutting tools is unclear, but rudimentary hand axes—rocks with one end sharpened and the other shaped to fit into a hand—were first used up to two and a half million years ago in Africa and the Middle East. Such tools were not only useful for everyday jobs, such as scraping meat off bones, but also served as potential weapons against human adversaries. These blades were made by pressure flaking—a process of hitting a rock with a piece of horn or antler until its edge became jagged—and were surprisingly sharp. Using this simple method, prehistoric man made many practical tools such as stone blades, particularly those made from flint, with smooth or serrated edges. However, a further step was required to transform the stone blade into a true fighting weapon.



The addition of a hilt or a grip to the hand ax launched the prehistoric blade's journey toward becoming a sword. By binding a wooden hilt to the unsharpened end of a hand ax, the user increased both the fighting distance between

him and an adversary, and the force with which he could deliver a blow, due to the wider angle of movement the hilt provided. However, early hilts were attached rather crudely and were prone to coming loose in combat. Around 40,000–60,000 years ago, with the invention of bow and arrow technology, small stone blades began to be used as arrowheads. Designed with serrated edges or barbs, these arrows dramatically increased the accuracy and severity of injury when fired from bows, while allowing the warrior to distance himself farther from the enemy. By 10,000 BCE, warriors had a varied arsenal of bows and arrows, as well as hilted blades such as flint daggers, axes, and flint-tipped spears. The use of such weapons meant that warfare began to produce much higher numbers of fatalities.



Although stone blades remained in use in some primitive or tribal societies for centuries to come—blades made from flint, for example, were used by the Aztecs until the 16th century CE—a metallurgical revolution took place during the third millennium BCE. Copper and bronze became the new materials for blade manufacture. These were stronger and more durable than stone, and could be made into a more uniform shape and sharpened more

keenly. During the second millennium BCE, daggers were transformed into full-length swords in most parts of the world, except Egypt, which relied upon daggers. Copper and bronze, although responsible for major developments in sword manufacture, were malleable and weapons made from them could be damaged easily in combat. It was the use of iron that truly revolutionized sword production. By 900 BCE, iron began to be widely used to produce more lasting and lethal weapons. Soon pattern welding—a technique in which iron is hammered flat, folded, and welded—was being used to produce stronger and more flexible swords.



Between 1000 BCE and 1000 CE, metal weapons became the fundamental tools of organized armies across the world. However, the high cost of making swords meant that in many societies these weapons were used only by the military elite and the nobility. New techniques such as casting the blade and hilt in one piece solved the problem of broken hilt joints. The design of metal weapons also evolved, and swords featured either thrusting or slashing characteristics. A thrusting sword had a sharp point for penetration, while a slashing sword placed more emphasis

on the cutting edge. However, some swords had both qualities. The Roman *gladius*, for example, had a point capable of punching through chain-mail armor, but also had a double-edged blade ideal for slashing attacks. Many swords also featured grooves called fullers along much of the length of the blade; these served to lighten and strengthen the blade. The ricasso—a small, unsharpened section of the blade just above the hilt—enabled the warrior to grip the blade as well as the hilt, providing extra power and control for a thrusting move. New features appeared on the hilt as well during this period. Shaped protrusions at the end of the grip, called pommels, provided counterbalance to the blade, while metal cross-guards—sitting at a right angle to the blade just at the top of the grip—were designed to protect the user's hand from the enemy's sword. In essence, by the end of the first millennium CE, swordsmiths had laid the foundations of sword design for the next 1,000 years.

ANCIENT BLADES

THE FIRST BLADES

The ability of human beings to manufacture tools was an early step toward gaining mastery over their environment. Among the first tools to appear were simple hand blades and axes made from hard rock; they were used to kill and dismember animals, but they also had the potential to be employed against other humans. The distinction between hunting and military weaponry remained blurred for many millennia. With the invention of the handle or shaft, which turned a blade into a viable handheld weapon, a revolution in hunting and fighting was underway.



Rounded area
held by hand



PALEOLITHIC BLADES

DATE c. 40,000 BCE

LENGTH 4 in (10 cm)

To be able to cut was of prime importance to early humans, and these stone blades—dating back to about 40,000 BCE—would have been used to dismember animals that had been killed by Paleolithic hunters. Such blades were capable of severing sinew and separating the skin from the animal's flesh.





Narrowed point

Rough cutting edge

HAND AX

DATE c. 250,000–70,000 BCE

LENGTH 6 in (15 cm)

A key tool of the Paleolithic Age, the hand ax was shaped to provide both a cutting edge and a point. Although hand axes were essentially domestic tools, they were capable of inflicting savage wounds against both animals and people. Their cutting ability made them highly valuable implements.

SERRATED FLINT KNIFE

DATE 2,500,000–10,000 BCE

LENGTH 8 in (20 cm)

This serrated knife is fashioned from flint, a hard rock, readily available in areas of chalk downland, which is capable of taking a sharp edge. The knife's sharp teeth enabled the Paleolithic hunter to saw through harder objects such as bone and gristle.

Serrated teeth for sawing



Replica wooden shaft



FLINT DAGGER

DATE c. 2000 BCE / **WEIGHT** c. 9 oz (250 g)

ORIGIN Unknown / **LENGTH** 6 in (15 cm)

Flint daggers, such as the one below, were produced by flaking, a process of repeatedly striking a piece of flint with a stone hammer, knocking off small flakes until a fine edge remained. The double-edged blade would originally have been attached to a shaft. The blade flares out widely, increasing the severity of the injury it could deliver.



FULL VIEW

Sinew or
leather binding



Sharp,
broad
point

Fine cutting edge



Narrowed tip

STONE-AGE DAGGER

DATE	2,500,000–10,000 BCE	WEIGHT	c. 18 oz (500 g)
ORIGIN	Unknown	LENGTH	12 in (30 cm)

By lashing the flint blade to a wooden shaft with a binding of sinew or leather strips, the simple dagger was transformed into a deadly weapon of war. The addition of the shaft enabled the Stone-Age fighter to plunge the blade into his opponent with greater leverage and power.



Cutting edge

Area where shaft would have been attached

SMALL CLOVIS POINT

DATE	c. 10,000 BCE	WEIGHT	c. 3 oz (9 g)
ORIGIN	USA	LENGTH	4 in (10 cm)

In 1932, the Ice-Age spearhead shown above was unearthed in Clovis, New Mexico, along with other weapon points. Its broad blade could inflict severe wounds. Binding the spearhead to a long wooden shaft enabled the fighter to throw it with great force, from a relatively safe distance.

THE FLINT WAS FLAKED TO PRODUCE A RAZORLIKE CUTTING EDGE.

STONE AXHEAD

DATE 4000–2000 BCE

WEIGHT c. 2½ lb (1 kg)

ORIGIN England

LENGTH 8 in (20 cm)

A dual-purpose tool, the stone ax could have been used for clearing vegetation but would also have been capable of smashing a human skull. The addition of a wooden handle provided greater reach and power. This axhead was dredged from the Thames River in London.

Smooth stone
axhead

Leather strips bind
axhead to shaft

Reproduction
wooden handle

NOT JUST TOOLS,
AXES MADE FROM THE
BEST FLINT WERE ALSO A SIGN OF
WEALTH AND STATUS.

FULL
VIEW



EARLY ADZE

DATE	8000–4000 BCE	WEIGHT	c. 2¼ lb (1.2 kg)
ORIGIN	Unknown	LENGTH	8 in (20 cm)

The adze is primarily a domestic or agricultural tool, used to shape rough-cut wood, but it does not take too much imagination to see this as a forerunner to the battle-ax. The stone head of the adze is inserted into a sleeve made of antler horn, which is then bound to the wooden shaft by strips of leather.



FULL VIEW



Flint blade fit into socket in shaft

Reproduction wooden handle

FLINT SCYTHE

DATE	c. 4000–2300 BCE	WEIGHT	c. 26 oz (750 g)
ORIGIN	Europe	LENGTH	c. 18 in (45 cm)

Flint could be used for blade and pick type weapons or utensils. This flint ax, dating from c. 4000–2300 BCE, is formed from a shaped wooden handle (in this case a modern reproduction) with the blade slotted into a socket at the top. Used mostly for harvesting crops, this type of ax would also provide a decent weapon in an emergency.

Wooden handle shaped by scraping tools

MESOPOTAMIA AND EGYPT

The spear and the bow were the chief weapons of the ancient Egyptian and Mesopotamian soldier. Arrowheads were made at first from flint, then from bronze, and the best specimens were capable of punching through contemporary body armor at close range. Spears were used primarily as thrusting weapons, and battle-axes were also used, the invention of bronze facilitating the development of various shapes for combat use. Swords, due the expense of their production, were more of a rarity, but became increasingly popular during the 1st millennium BCE as Middle Eastern warriors encountered sword-wielding enemies from other territories.



Intricate
geometric design

SCABBARD

CEREMONIAL DAGGER

DATE	c. 2500 BCE	WEIGHT	c. 34 oz (950 g)
ORIGIN	Sumer	LENGTH	c. 10 in (25 cm)

Excavated from the burial site of the Sumerian Queen Pu-Abi (died around 2500 BCE), this ceremonial dagger is of the highest quality—a suitable weapon for a monarch to carry on her journey to the afterlife. The blade and scabbard are made of gold, while the hilt is constructed from lapis lazuli finished with gold decoration.



Double-edged
blade

KNOWN AS A CUTTING AX, THE EGYPTIAN BLADE WAS DESIGNED TO INFLICT BROAD WOUNDS ON UNARMED OPPONENTS.



Thin, scalloped ax blade

Attachment hole

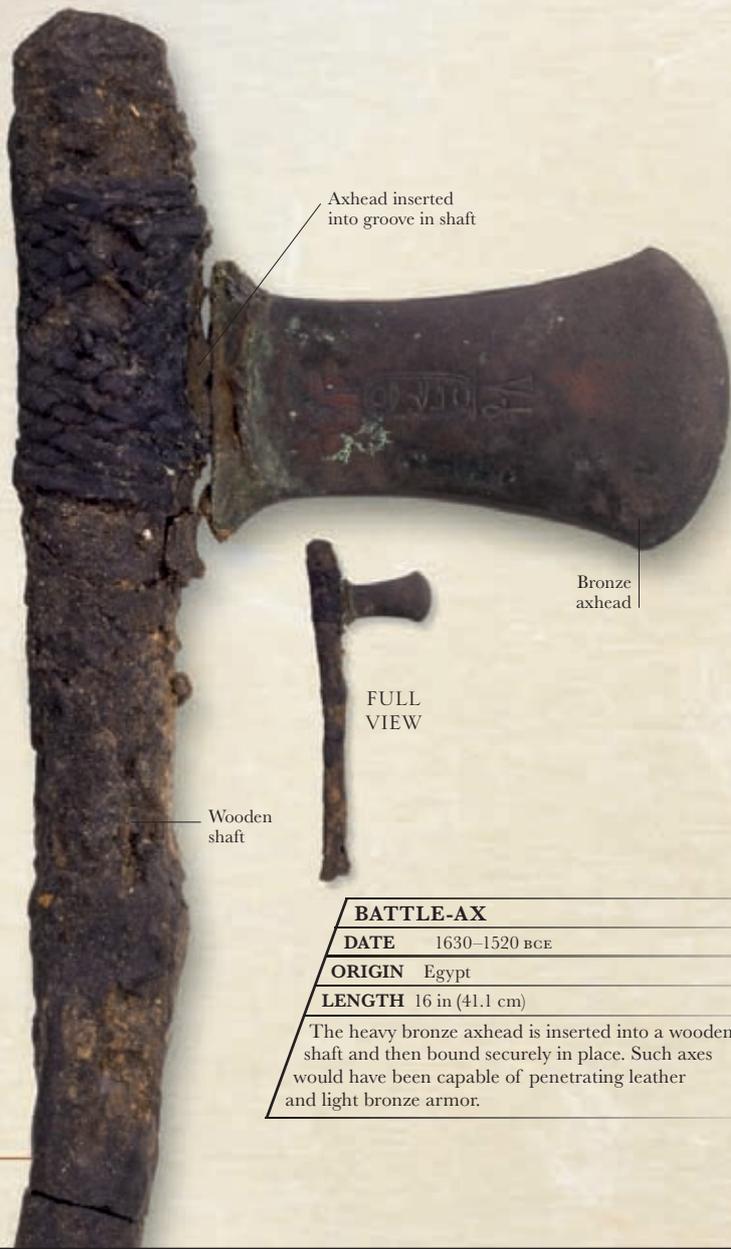
BRONZE AXHEAD

DATE	2200–1640 BCE	WEIGHT	c. 18 oz (500 g)
ORIGIN	Egypt	LENGTH	6¾ in (17.1 cm)

The Egyptian enthusiasm for axes led to the development of a wide variety of axhead shapes. This broad, scalloped (curved) example has small holes where the head is bound to the shaft. The distinctive shape of the blade makes possible a wide slashing action, effective against unarmored opponents and those wearing light armor.



Blue lapis lazuli hilt



Axhead inserted
into groove in shaft

Bronze
axhead

Wooden
shaft

FULL
VIEW



Wooden
shaft

FULL
VIEW

Original
binding

BATTLE-AX

DATE 1630–1520 BCE

ORIGIN Egypt

LENGTH 16 in (41.1 cm)

The heavy bronze axhead is inserted into a wooden shaft and then bound securely in place. Such axes would have been capable of penetrating leather and light bronze armor.

CEREMONIAL AX

DATE 1539–1075 BCE

ORIGIN Egypt

LENGTH 17 in (43.5 cm)

The ax had strong associations with power and prestige, and ceremonial versions were carried by Egyptian rulers. Typically, a scene showing the triumph of the pharaoh would be engraved on the axhead, although in this instance a warrior is depicted on horseback in an open metalwork design.



Intricate warrior-on-horseback design

Open metalwork axhead



Leather strips lash axhead to shaft

Cutting edge of blade

Wooden shaft

FULL VIEW

REPLICA BATTLE-AX

DATE 2nd millennium BCE

ORIGIN Egypt

LENGTH 16½ in (42 cm)

This modern reconstruction of a 2nd millennium BCE Egyptian battle-ax shows the axhead strapped onto a wooden shaft. This type of weapon would have been used by the ordinary Egyptian foot soldier and was a response to the increased use of armor by Egypt's enemies during the middle of the 2nd millennium BCE.

SHORT SWORD

DATE 1539–1075 BCE

ORIGIN Egypt

LENGTH 12½ in (32.3 cm)

Until the advent of the New Kingdom (1570–1070 BCE), the sword had not been regarded highly by the Egyptians. However, encounters with warlike people from the Middle East encouraged the development of edged weapons that could penetrate armor. This broad-bladed short sword has a gold-coated handle and almost certainly belonged to a member of the Egyptian royal family.



Hilt design indicates Middle-Eastern influence

Gold-coated handle



Decorated gold handle

Double-edged iron blade

Pommel at top of sword's grip to provide balance



Gold-coated handle



Wide, double-edged
bronze blade

TUTANKHAMUN'S SWORD

DATE c. 14th century BCE

ORIGIN Egypt

LENGTH 16¼ in (41.1 cm)

This sword, which belonged to King Tutankhamun (r. 1333–1323 BCE), has an iron blade, a rarity in this period. The Egyptians did not have direct access to iron ore and were dependent on supplies from the Middle East—often under the control of their enemies—which made the production of iron weapons difficult.

LONG SWORD

DATE 1539–1075 BCE

ORIGIN Egypt

LENGTH 16 in (40.6 cm)

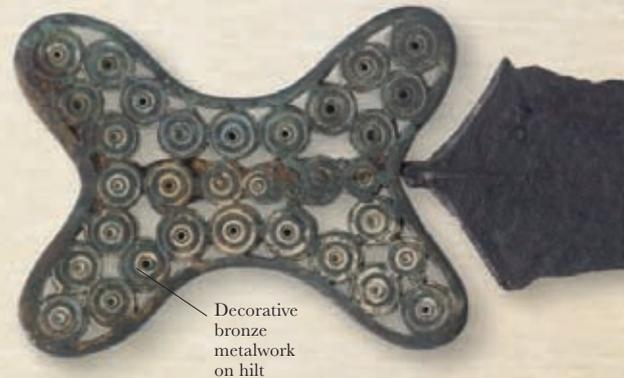
Featuring a large mushroom-shaped pommel, this sword has a copper blade, while the handle is coated with gold. Although copper was readily available in Egypt, it lacked the strength of bronze and iron, and the blade could not be made to take a sharp edge.



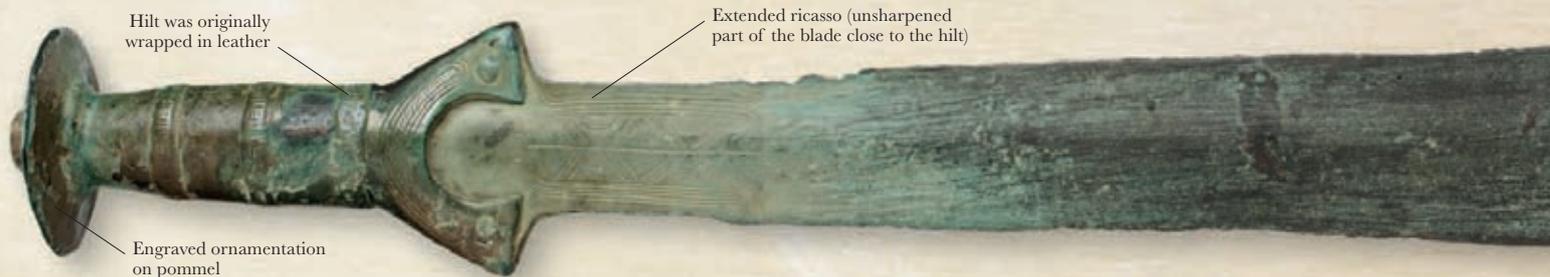
Double-edged
copper blade

BRONZE- AND IRON-AGE BLADES

Bronze- and Iron-Age Europe was home to several ferocious warrior peoples. These included the Teutones, Cimbri, Goths, and Celts, and incorporated areas from the Black Sea to Britain. The Celts were renowned swordsmen—heavily armed infantry who, on foot, charged repeatedly at their enemies with little protection other than a helmet and shield. Many of the surviving swords of this period feature decorative hilts and blade engraving.



Decorative bronze metalwork on hilt



Hilt was originally wrapped in leather

Extended ricasso (unsharpened part of the blade close to the hilt)

Engraved ornamentation on pommel

BRONZE LEAF-SHAPED SWORD

DATE c. 1000 BCE

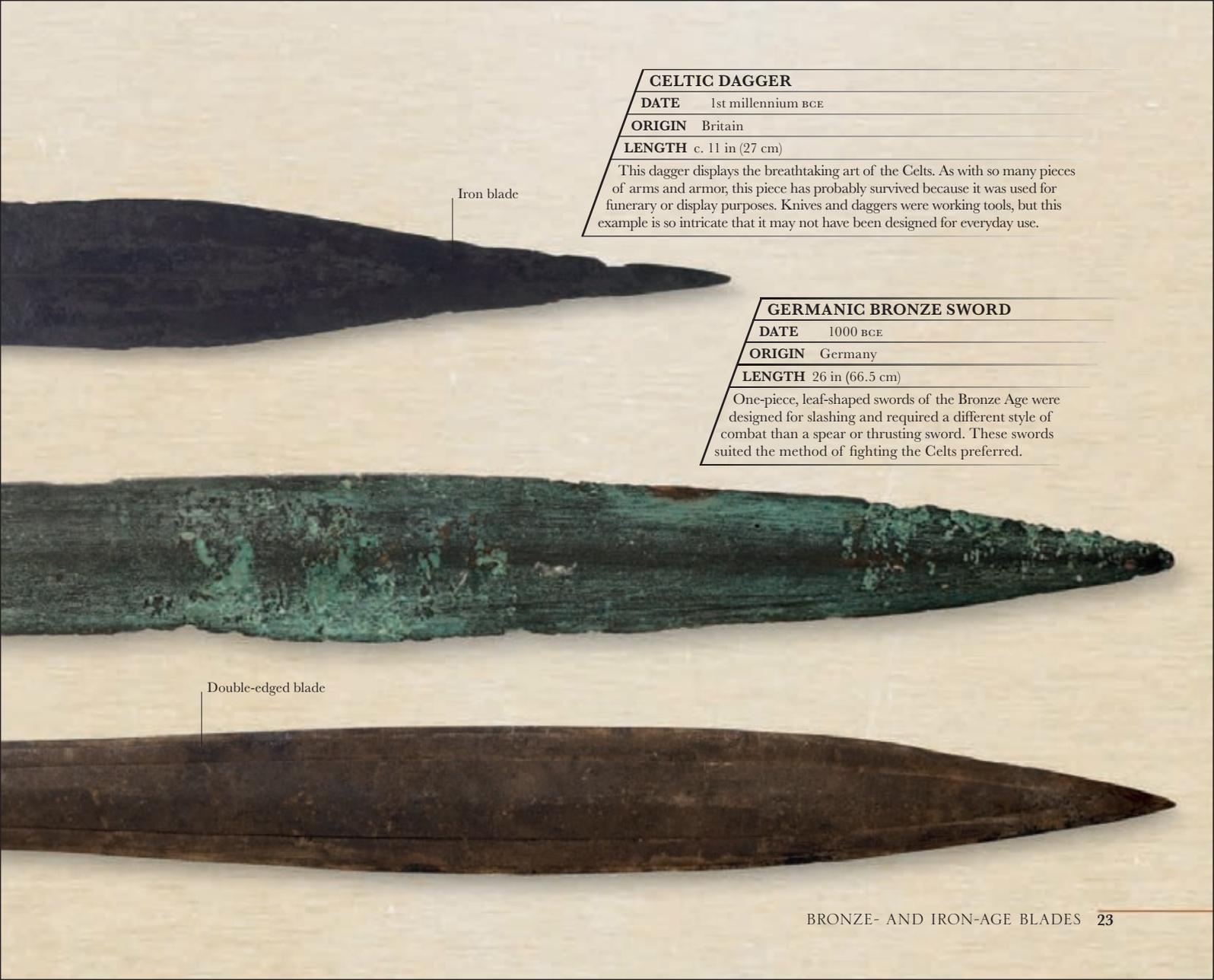
ORIGIN Britain

LENGTH 22¼ in (57.9 cm)

Until ironworking started in Europe around 600 BCE, bronze dominated weapon manufacture. This leaf-shaped sword, cast in one piece, is typical of Bronze-Age swords in size and shape. Bronze is hard to sharpen and keep sharp, so this blade represents significant metalworking talent.



Hilt plates would have been of wood, bone, or horn



Iron blade

CELTIC DAGGER

DATE 1st millennium BCE

ORIGIN Britain

LENGTH c. 11 in (27 cm)

This dagger displays the breathtaking art of the Celts. As with so many pieces of arms and armor, this piece has probably survived because it was used for funerary or display purposes. Knives and daggers were working tools, but this example is so intricate that it may not have been designed for everyday use.

GERMANIC BRONZE SWORD

DATE 1000 BCE

ORIGIN Germany

LENGTH 26 in (66.5 cm)

One-piece, leaf-shaped swords of the Bronze Age were designed for slashing and required a different style of combat than a spear or thrusting sword. These swords suited the method of fighting the Celts preferred.

Double-edged blade

CELTIC WARRIOR

The Celts were a group of tribal peoples, including Gauls, Iberians, and Britons, who migrated from central Germany to Western Europe around the 1st millennium BCE. They came into conflict with the Romans, whom they fought regularly from the 4th century BCE.



The ancient Greek historian Strabo had this to say about the armory of Celtic warriors in battle: “Their arms correspond in size with their physique; a long sword fastened on the right

side and a long shield, and spears of like dimension.” Their long swords were initially made of bronze and later, iron, and were double-edged, like the example shown here. Celts also used the *falcatal* (short slashing sword) and long daggers as side weapons. Celtic warriors would typically face the enemy as a mass and make a fearful noise by banging their shields and screaming, attempting to intimidate their opponents. The attack itself was largely a *mêlée*, the whole mass of warriors—using shields to protect themselves—surging into enemy lines, slashing with their swords and stabbing with their spears.



Tang

Flared hilt acted as hand guard

Bronze double-edged blade narrows toward guard

“
**WEIRD, DISCORDANT
HORNS WERE SOUNDED...
THEY BEAT THEIR SWORDS RHYTHMICALLY
AGAINST THEIR SHIELDS.**
”

GREEK HISTORIAN DIODORUS SICULUS DESCRIBING
THE CELTS, 1st CENTURY BCE

CELTIC SWORD

DATE	c. 400 BCE	WEIGHT	c. 2½ lb (1 kg)
ORIGIN	Western Europe	LENGTH	c. 26 in (66 cm)

The Celts were renowned for their double-edged swords, which had wide blades with thin edges, making them ideal for slashing attacks. The blade's weight was concentrated toward the front, which increased the force at the point of impact.

Blade flares out at
two-thirds of its length

ON THE MOVE

A 1st-century BCE silver vessel from Gundestrup, Denmark, shows Celtic infantry and cavalry, displaying their horns, weapons, and shields. This disciplined formation largely dissolved on the battlefield.



BROAD-BLADED BATTLE-AX

DATE c. 500 BCE

ORIGIN Northern Europe

The head of this ax has been hammered from a single iron bar. A long wooden handle was wedged tightly into the socket to make an effective weapon for hand-to-hand combat.

Edge damaged, as bronze is too malleable and weak to hold edge well

Socket for shaft to be wedged

Long cutting edge

Decorated guard



Hollowed-out socket

Looped ear used to secure axhead to shaft with bindings

BRONZE AXHEAD

DATE 750–650 BCE

ORIGIN Europe

Bronze battle-axes, with sockets to take a wooden shaft, are associated with the Celts from the earliest times. They were used as tools but they were also useful in hand-to-hand combat. They became more effective when made from iron.

AS METALS IMPROVED, THE EDGES BECAME SHARPER AND CUTTING WEAPONS BECAME MORE EFFECTIVE FIGHTING TOOLS.



Wooden sheath with bronze strips

IRON-AGE DAGGER IN SHEATH

DATE 550–450 BCE

ORIGIN Britain

This decorated iron dagger would have belonged to a tribal chief. In this period, iron blades showed status and were used for everyday functions such as cutting. In extreme circumstances, they would be pressed into use as combat weapons.

ANCIENT GREECE

The warriors of ancient Greece used a variety of edged weapons. A classic type was the *xiphos* (pp. 30–31), a double-edged blade that swelled out before the point and was intended primarily for slashing attacks against ranks of enemy infantry. The Greek *kopis* was a powerful chopping weapon, with a single-edged, curved blade, set heavily forward to assist the cutting action. Such blades were the principal weapons of hoplites (pp. 30–31) for some 600 years and influenced Roman and Middle Eastern designs. Daggers were little known in the Greek world, but axes were sometimes used by heavy infantry (heavily armed or armored foot soldiers) to rupture enemy shields and armor.



Bronze cutting blade

GREEK HOPLITE AX

DATE	c. 6th century BCE	WEIGHT	c. 3¼ lb (1.5 kg)
ORIGIN	Greece	LENGTH	c. 20 in (51 cm)

The hoplite ax was a powerful combat tool. This particular example, a modern-day replica of the ancient weapon, features a deep, curved main cutting blade balanced by a sharp pick head. The blade, socket, and pick are cast in one piece of bronze, and the haft is secured to the socket with strong rawhide bindings, looped in a cross pattern and tied below the blade.



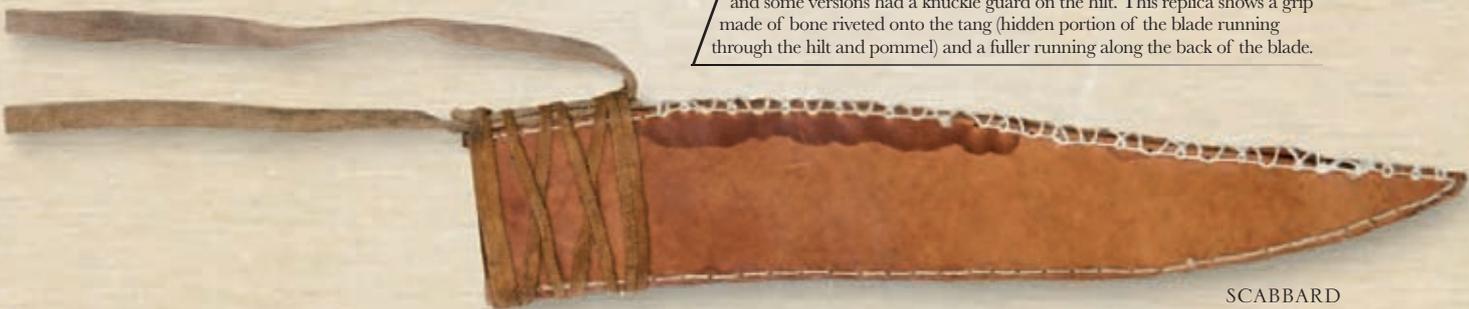
FULL VIEW

“
**GO NEAR, STRIKE WITH A
 LONG SPEAR OR A SWORD AT CLOSE
 RANGE AND KILL A MAN.**
 ”

SPARTAN POET TYRTAEUS, 7TH CENTURY BCE



Pick head acts as both weapon
 and balancing feature



SCABBARD



Solid bone grip

Fuller

Curved, single-edged blade

KOPIS

DATE	c. 4th century BCE	WEIGHT	c. 18 oz (500 g)
ORIGIN	Greece	LENGTH	c. 24 in (61 cm)

A scythe weapon developed from an agricultural tool, the *kopis* appears in Greek art from around 500 BCE. The single-edged blade had a sharp curve, and some versions had a knuckle guard on the hilt. This replica shows a grip made of bone riveted onto the tang (hidden portion of the blade running through the hilt and pommel) and a fuller running along the back of the blade.

HOPLITE

Hoplites, so named after the *hoplon* shield, were citizen-soldiers—Greeks who would, in times of crisis, break away from their everyday duties to go to war. Hoplites were the backbone of Greek infantry warfare from the 5th century BCE.



Hoplite tactics were disciplined, based on a structure known as a phalanx—an eight-rank-deep formation bristling with spears and swords. The ranks of the phalanx stood tightly in line, each

man shoulder-to-shoulder, with shields pressed up against the backs of the men in front. The spears of the first three ranks were pointed forward in the attack, while warriors in the ranks behind angled their spears upward, ready to deploy in action. This presented a powerful battering-ram effect against opposing forces. Hoplites also used a sword called a *xiphos* (below), a double-edged weapon well-suited to close-quarters fighting. The most famous among hoplites were the Spartans, citizens of the city-state of Sparta in southern Greece.



Bronze hilt cap

Flared hardwood grip

Replica of double-edged blade with central fuller

“
THE SPARTANS MARCHED SLOWLY
SO THAT THE MEN COULD
CLOSE ON THE ENEMY
STEADILY AND EVENLY.

THUCYDIDES, ON THE SPARTANS AT THE BATTLE OF MATINEA, 418 BCE ”

SPARTAN XIPHOS

DATE c. 5th century BCE / **WEIGHT** c. 24½ oz (700 g)

ORIGIN Greece / **LENGTH** c. 29 in (75 cm)

The iron blade of the *xiphos* was narrow-waisted toward its handle and heavily weighted at the front part of the blade to aid a hacking motion over the top of the shield. The double-edged sword could cut with both a forehand and a backhand slash.

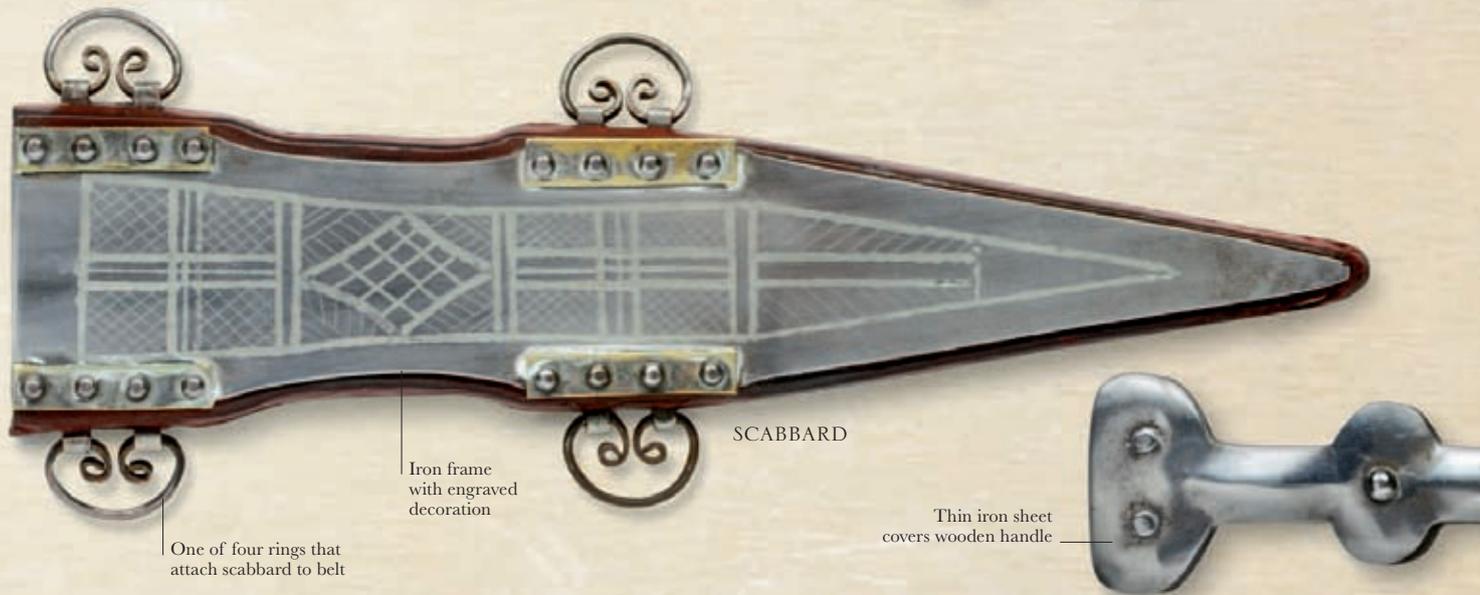
PREPARING FOR BATTLE

This ancient Greek vase painting shows a hoplite warrior equipped with armor and weaponry, in readiness for battle. The *xiphos* hangs in its scabbard on the warrior's left side, from where he could draw it out easily with his right hand.



ANCIENT ROME

The Roman army was the finest fighting machine of the ancient world. Highly disciplined and trained, its troops were generally well led. A Roman legionary (armored foot soldier) was fully equipped for close-range battles in densely packed ranks. While archers and javelin-throwing troops would disrupt the enemy, the main battle was invariably fought by the heavily armed foot soldier. Protected by a large rectangular shield, he fought in close formation to overwhelm the enemy with his *gladius*, or short sword.





Traces of wood from the scabbard on the steel blade

Rusted and corroded steel blade



Legion's eagle standard in a shrine

GLADIUS

DATE c. 15 CE

ORIGIN Rome, Italy

LENGTH c. 30 in (75 cm)

The key Roman weapon was the *gladius* or short sword, which the legionary used for stabbing his opponent. This ceremonial *gladius* and its wooden scabbard, magnificently decorated in gold and silver, was probably presented to a favored officer by the emperor Tiberius (r. 14–37 CE).

PUGIO

DATE c. 1st century BCE

WEIGHT c. 24¼ lb (700 g)

ORIGIN Rome, Italy

LENGTH c. 13 in (33 cm)

In addition to a *gladius*, legionaries carried a *pugio*, or dagger, that was worn at the left hip. A few were richly decorated with bronze handles. The grooves and ridges gave added strength to the blade. The *pugio* acted as a weapon of last resort, but was also applied as a utility tool.



Double-edged steel blade

ROMAN GLADIATOR

Among the most memorable figures of the Roman Empire, gladiators were volunteers, or prisoners and slaves who fought for public entertainment. Volunteers craved social standing; for the latter, repeated victories could bring freedom.



Gladiatorial fighting began in the 3rd century BCE at private events, but by the 1st century BCE it had grown into an important part of the public games that were played in great

arenas at imperial expense. Gladiatorial games were at their peak from the 1st century BCE to the 2nd century CE. The gladiators were rigorously trained and fought as specific types—each type distinguished by the weapons and armor they used and by their manner of fighting. *Retiarii* (“net men”) fought with trident, dagger, and net, while *dimachaeri* (“bearing two swords”) were armed with a sword in each hand. Usually, gladiators fought one-on-one, in bouts that ended in submission, injury, or death.



“
HE VOWS TO ENDURE
TO BE BURNED, TO BE BOUND,
TO BE BEATEN, AND TO BE KILLED
BY THE SWORD.”

GLADIATOR'S OATH, DESCRIBED BY PETRONIUS, *SATYRICON*

GLADIUS

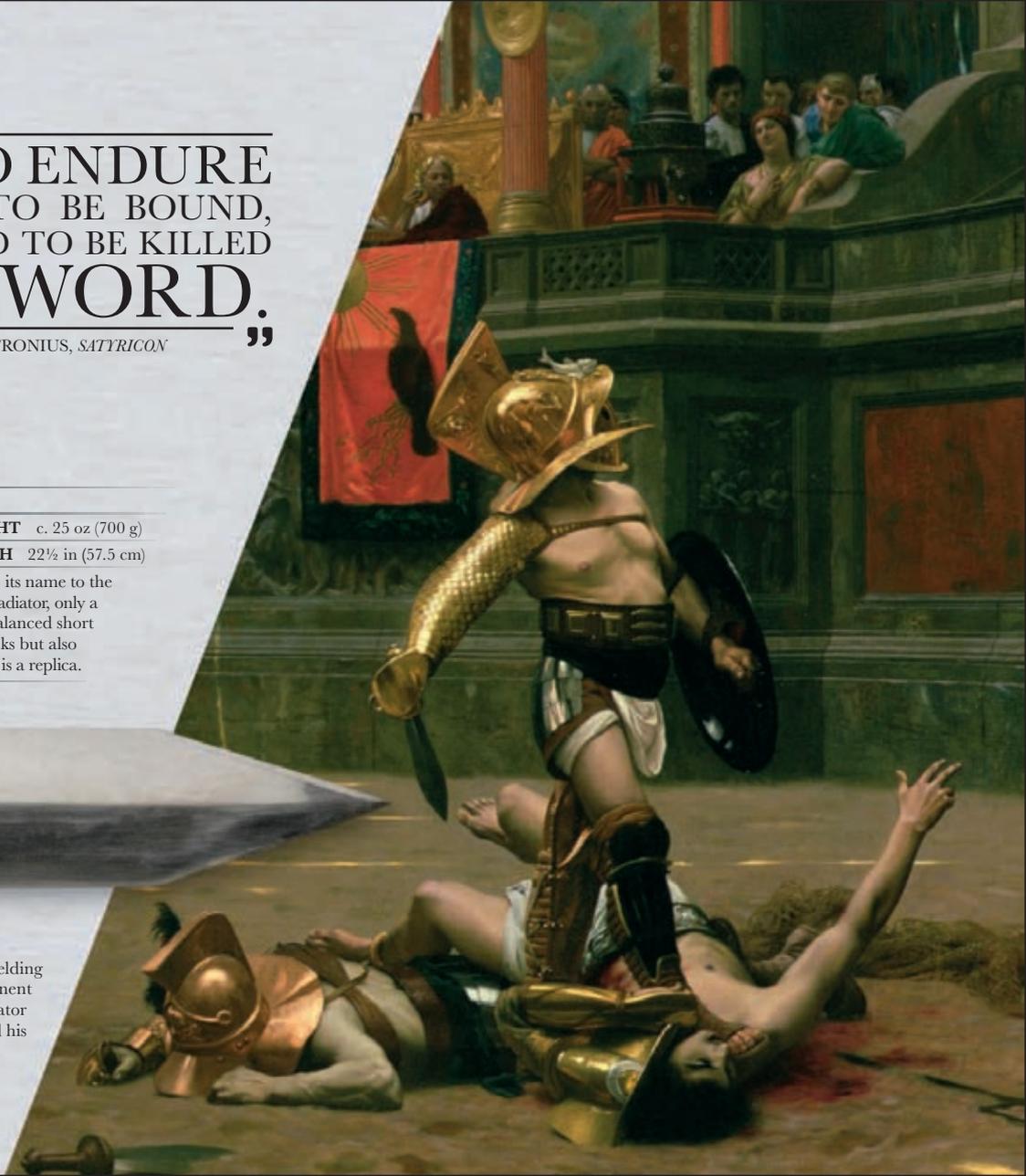
DATE c. 1st century CE / **WEIGHT** c. 25 oz (700 g)

ORIGIN Rome / **LENGTH** 22½ in (57.5 cm)

The *gladius* (Latin word for “sword”) gave its name to the gladiator, although of the many types of gladiator, only a few fought with the *gladius*. It was a well-balanced short sword, suited not only to fast thrusting attacks but also to powerful slashes. The example shown here is a replica.

TO THE DEATH

This 19th-century painting shows a *gladius*-wielding gladiator asking an emperor whether an opponent deserves mercy. If an emperor wanted a gladiator to finish off his opponent, he apparently turned his thumb sideways and jabbed it at his chest.



ANGLO-SAXON AND FRANKISH BLADES

The great majority of Saxon, Anglo-Saxon, and Frankish warriors were infantrymen, who carried a shield and a dagger, often wore a helmet, and fought with spears, axes, and the single-edged weapon variously called the *seax*, *scamasax*, or *scramasax*. More slender double-edged swords were also wielded, although only by the nobility who could afford them. Axes provided both armor-smashing force and, in some cases, throwing weapons.

SEAX			
DATE	900–1000 CE	WEIGHT	21 oz (600 g)
ORIGIN	Northern Europe	LENGTH	9¼ in (24.76 cm)

Swords were extremely expensive weapons, so most people carried a blade that doubled as a fighting dagger and a working tool. Called the *sax* or *seax* (the root of the name “Saxon”), other examples of this weapon have been found from the 5th century onward.

False, unsharpened edge

Blade always single-edged



Tough single-edged blade

Tapering tang

BROKEN-BACK SEAX

DATE 900–1000 CE **WEIGHT** 21 oz (600 g)

ORIGIN Northern Europe **LENGTH** 7½ in (19 cm)

In Britain and other parts of Northern Europe, the *seax* was often produced in this “broken-back” shape, with an angular upper edge and a curved, sharpened lower edge. Crude and easy to manufacture, these blades were effective weapons, used until the 15th century CE, providing those who could not afford a sword with a long blade.



Tang wrapped in leather

Slightly tapering, double-edged blade

SAXON SWORD

DATE 500–600 CE

ORIGIN Northern Europe

Swords were expensive and time-consuming to manufacture by pattern welding. In Saxon society, they were only used by people of high rank or professional warriors, and were often objects of great veneration.

Tip less sharp than many *seaxes*



Replica curved
wooden shaft

Iron head angled
from shaft



FULL VIEW

FRANCISCA THROWING AX

DATE	400–500 CE	WEIGHT	Head: 15 oz (430 g)
ORIGIN	Europe	LENGTH	Head: 6½ in (16.5 cm)

The throwing ax was popular with the Germanic warriors who fought against the Roman Empire in its later years. Similar to a light spear in use, it was thrown before contact with the enemy to create gaps in their battle lines.

“
...THEY ARE ACCUSTOMED ALWAYS
TO THROW THESE AXES AT ONE SIGNAL
IN THE FIRST CHARGE, AND THUS
SHATTER THE SHIELDS
OF THE ENEMY AND KILL THE MEN.
”

PROCOPIUS, 6TH-CENTURY BYZANTINE SCHOLAR,
ON THE FRANKS' STYLE OF WARFARE



Cutting edge
fire-welded into place

Socket for
ax handle

Elongated lower
edge gives the name
"bearded" ax

NORTHERN EUROPEAN AXHEAD

DATE	900–1000 CE	WEIGHT	18 oz (500 g)
ORIGIN	Northern Europe	LENGTH	9 in (22 cm)

Axes were popular weapons because they doubled as tools and were simple and cheap to make. A strip of molten iron was folded in half around a mandrel (a rod used to forge or shape metal), creating a socket. The cutting edge of harder iron or steel was fire-welded in place separately. A wooden shaft of suitable length was then wedged into the socket.

EARLY ARMOR

From ancient times, warriors sought ways to protect themselves from swords and spears. Shields provided handheld protection, while thick animal hide jackets or suits offered some resistance to sword slashes. Far more advanced armor, however, came in the form of chain mail, which was flexible and provided the superb protective qualities of metal.



The earliest example of chain-mail armor is from a Celtic chieftain's grave in Romania, dating to the 4th century BCE. Mail was difficult to penetrate, although some heavy thrusting swords could split poor-quality links. The impact from a sword blow could also injure the wearer, who continued to use a shield to defend himself against blows. Chain mail became popular among European armies, including the Anglo-Saxons, whose armor and shield feature here.

ANGLO-SAXON SHIELD

DATE	c. 10th century	WEIGHT	c. 5½ lb (2.5 kg)
ORIGIN	Britain	LENGTH	c. 36 in (90 cm)

An Anglo-Saxon shield, of which a replica is shown here, was made from planks of wood riveted together, the whole then covered with leather. The wood types used were those that did not split easily on impact, such as lime and poplar.

MAIL COAT

DATE	c. 10th century	WEIGHT	c. 22 lb (10 kg)
ORIGIN	Britain	LENGTH	c. 30 in (76 cm)

This Anglo-Saxon mail coat is made from riveted, interlocked iron rings. Worn like a jacket, it provided a flexible armor that allowed the wearer free movement in combat, although its weight tested the soldier's endurance. The example shown here is a replica.

Shield colors could identify military units



NORMAN ARCHERS

The Bayeux tapestry is a long, embroidered cloth that tells the story of the Norman conquest of England. This section of the tapestry depicts armed and armored Norman soldiers at the Battle of Hastings (1066). The soldiers are portrayed wearing thigh-length chainmail suits, and using small shields to protect themselves from spears and arrows.



VIKING BLADES

The seafaring Scandinavians known as Norsemen or Vikings have a special place in European history. From the British Isles to the Varangian Guard in Kievan Rus (modern-day Ukraine), they came to symbolize the quintessential Dark-Age warrior. Striking from the sea in their longboats, they plundered the coasts of Europe, as well as settling possibly as far afield as Nova Scotia, Canada. The Vikings were well armed, in particular with swords and axes, but also with spears and bows. They carried round shields and most wore helmets; many wore chain-mail armor as well.



Decoration continues over the socket

Projections around socket stop axhead from shearing

Silver wire ornamentation

MAMMEN AXHEAD

DATE c. 970 CE

ORIGIN Denmark

LENGTH 6½ in (16.5 cm)

This decorated axhead was found in Mammen in Jutland, Denmark, and is one of the best-known examples of the small Viking throwing ax. Viking blades were often forged to be very thin, so as to combine lightness with strength.

IRON AX

DATE c. 900 CE

ORIGIN Unknown

This Viking ax is known as the bearded ax because of its elongated lower edge and slanting blade, which enabled downward blows. The crescent-shaped blade was capable of splitting open plate-steel armor.



Long handle to allow two-handed blow

IN BATTLE, VIKINGS THREW AXES AS
WEIGHTY MISSILES,
AND USED THE BLADE CURVES TO HOOK
NECKS AND ANKLES.

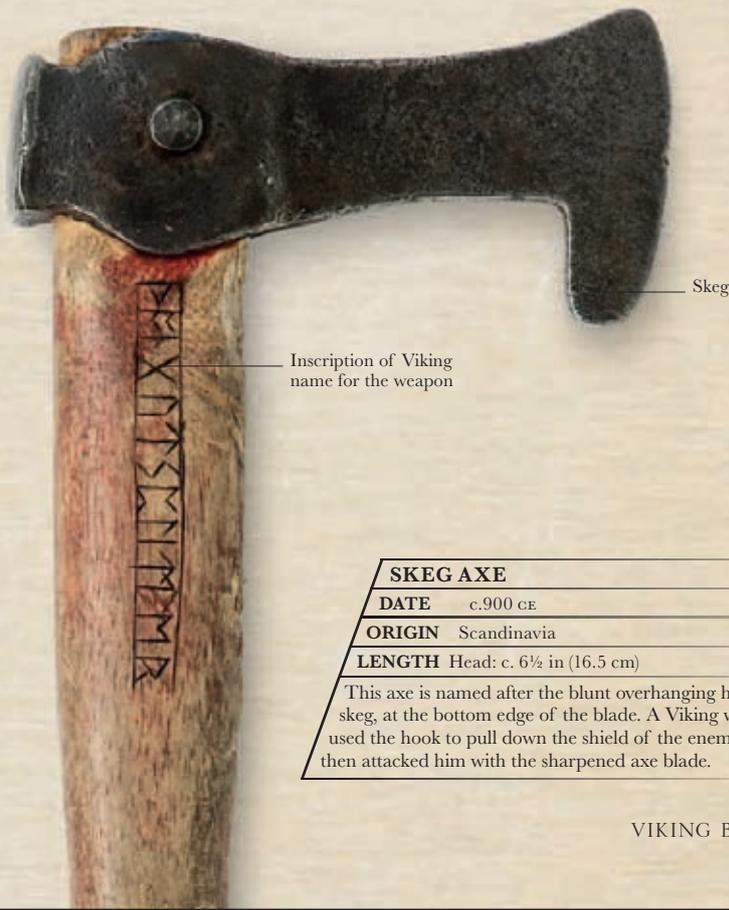


Cutting edge made
of hardened steel

Broad, crescent-
shaped blade



FULL
VIEW



Skeg

Inscription of Viking
name for the weapon

SKEG AXE

DATE c.900 CE

ORIGIN Scandinavia

LENGTH Head: c. 6½ in (16.5 cm)

This axe is named after the blunt overhanging hook, or skeg, at the bottom edge of the blade. A Viking warrior used the hook to pull down the shield of the enemy, and then attacked him with the sharpened axe blade.

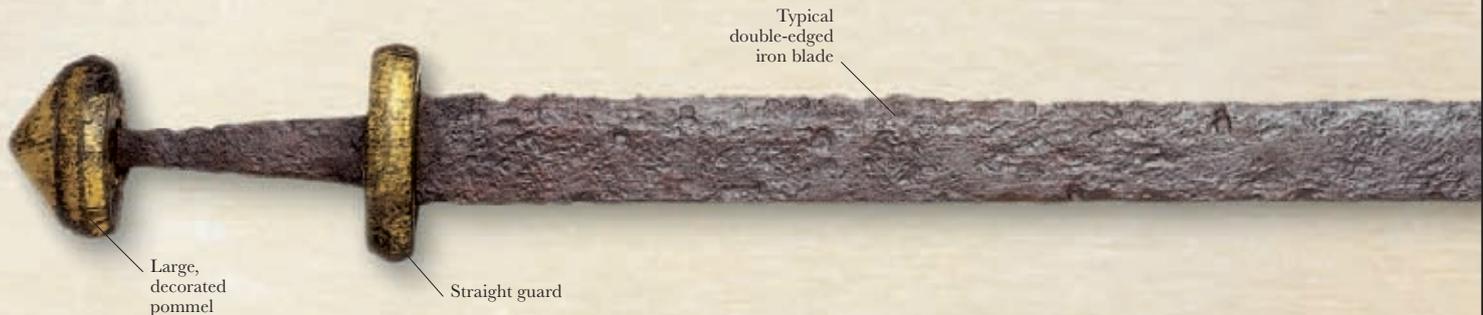
10th-CENTURY VIKING SWORD

DATE 900–1000 CE

ORIGIN Scandinavia

LENGTH 35½ in (90 cm)

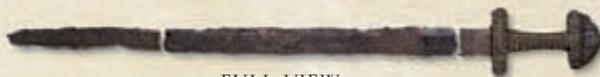
This iron sword is typical of Viking weapons, being straight-sided and about 35 in (90 cm) long. It has a two-piece pommel and guard, both of which are decorated with a crisscross pattern in brass inlay. The blade has a figure-eight mark on one of its faces.



Typical
double-edged
iron blade

Large,
decorated
pommel

Straight guard



FULL VIEW





Double-edged blade

Guard formed of large boat-shaped plate

DOUBLE-EDGED SWORD

DATE 800–1100 CE

ORIGIN Denmark

LENGTH 35½ in (90 cm)

There were many variations in Viking swords, mainly in the form of the pommel, guard, and hilt. Most blades were double-edged with a rounded tip because they were used for big, slashing blows delivered to get past the enemy's shield or defensive parry, which could severely damage the blade.



EMBELLISHED DOUBLE-EDGED SWORD

DATE 700–800 CE

ORIGIN Denmark

LENGTH 35½ in (90 cm)

Many Viking swords, such as this one, were pattern-welded for extra strength. This ancient process involved introducing carbon into the red-hot iron and making a number of rods. These were twisted and forged together with rods containing less carbon, producing a patterned appearance.



Pattern-welded blade

Rounded pommel

Hilt decorated with geometric patterns in silver and brass



FULL VIEW

Fuller to
lighten blade

LATE VIKING SWORD

DATE 900–1150 CE

ORIGIN Scandinavia

LENGTH 35½ in (90 cm)

This broad, straight, double-edged blade retains traces of an inlaid inscription, now indecipherable, and a scroll-design pommel; the grip is missing. The sword is more tapered than earlier Viking swords (*pp. 44–45*).

Quillon protected wielder's
hand against enemy weapons
that slid down the blade

VIKING SWORD

DATE 900–1000 CE

ORIGIN Scandinavia

LENGTH 31–39 in (80–100 cm)

This Viking sword blade is much corroded, as are so many found on various archeological sites. Their wooden scabbards and hilts have almost completely rotted away, making it difficult to interpret the inscriptions present on them.



FULL VIEW

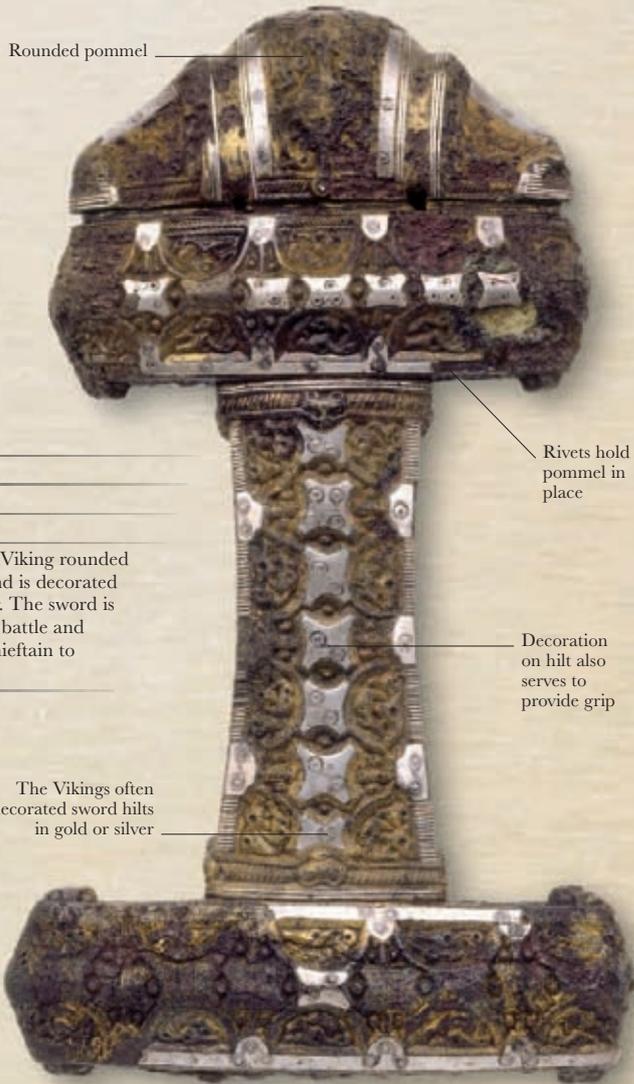
Tapering blade, a feature
of later Viking swords



Pommel designed in the shape of a scroll



Iron tang terminates in broad pommel



Rounded pommel

Rivets hold pommel in place

Decoration on hilt also serves to provide grip

The Vikings often decorated sword hilts in gold or silver

VIKING SWORD HILT

DATE c. 700–1050 CE

ORIGIN Northern Europe

This sword hilt has a characteristic Viking rounded pommel—it is made from copper and is decorated with inlaid geometric designs in silver. The sword is too finely crafted to have been used in battle and would have been carried by a Viking chieftain to show his status or to use in ceremonies.

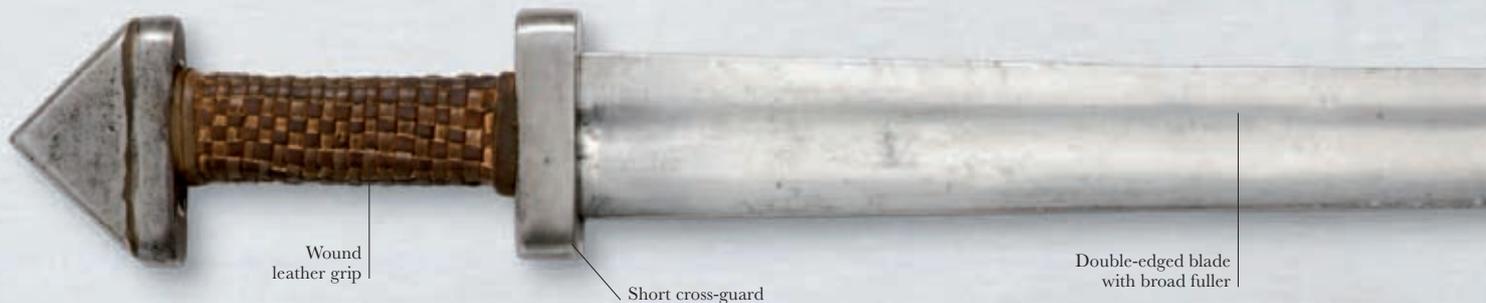
VIKING RAIDER

From the 8th to the 11th centuries, the Scandinavian Vikings, traveling in their now-famous longboats, explored, raided, and often wreaked havoc over large parts of Europe. Over time, they voyaged as far as North America and the Black Sea. Viking warriors perfected their own brand of infantry, cavalry, and amphibious warfare.



The typical Viking warrior's body armor consisted of a padded leather or caribou-hide jacket or, if he was wealthy enough, a chain-mail coat. A close-fitting steel helmet (without

the horns often depicted in popular culture) protected the skull, nose, and cheeks. For hand-to-hand fighting, Vikings preferred battle-axes and double-edged swords. If they were forced to fight against an organized enemy, however, they would typically stand shoulder-to-shoulder, forming a protective wall with their shields and spears. They threw javelins and throwing axes, and fired sling shots at the enemy as a prelude to a spirited charge, in which their swords, as well as handheld axes, came into play in a vicious, hacking mêlée. They held their shields in the left hand during the fight, using the shield with its boss (the bulge at the center of the shield) as a battering weapon.



“
YOU WORKED WELL IN THE
SHIELD WALL, WARRIOR KING...
IN THE SLAUGHTER,
YOU WON, SIRE, WITH YOUR SWORD
ENOUGH OF A NAME.”

KNYTLINGA SAGA, DESCRIBING KING CNUT IN BATTLE, c. 1250

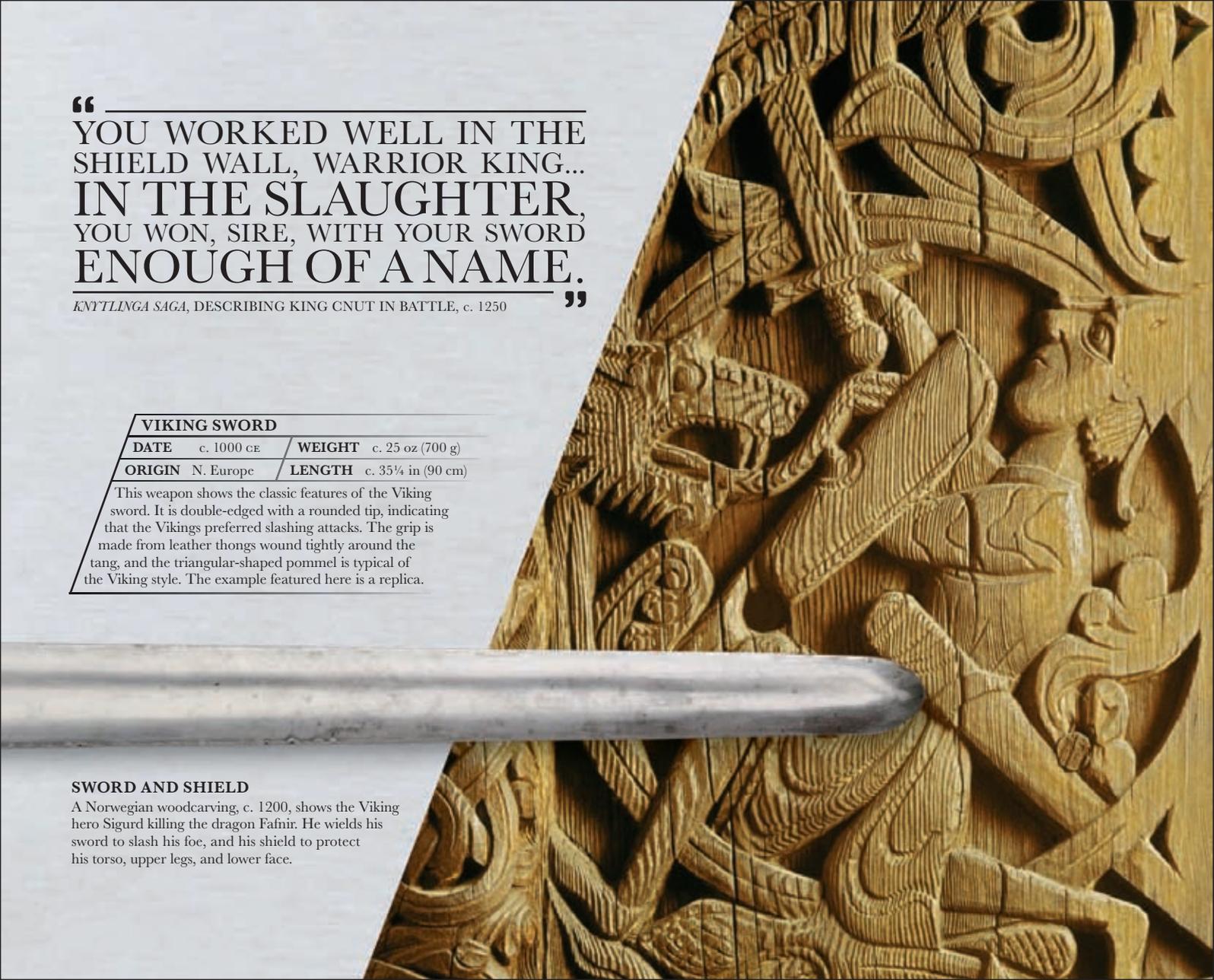
VIKING SWORD

DATE	c. 1000 CE	WEIGHT	c. 25 oz (700 g)
ORIGIN	N. Europe	LENGTH	c. 35¼ in (90 cm)

This weapon shows the classic features of the Viking sword. It is double-edged with a rounded tip, indicating that the Vikings preferred slashing attacks. The grip is made from leather thongs wound tightly around the tang, and the triangular-shaped pommel is typical of the Viking style. The example featured here is a replica.

SWORD AND SHIELD

A Norwegian woodcarving, c. 1200, shows the Viking hero Sigurd killing the dragon Fafnir. He wields his sword to slash his foe, and his shield to protect his torso, upper legs, and lower face.



SPEARS AND ARROWS

Before the advent of workable metals, the challenge for ancient warriors was to create sharp, durable spears and arrowheads from natural materials. Mostly, this was achieved through either sharpened and fire-hardened wood, or by knapping (chipping off) pieces of flint or other stone to produce a point or edge. Flint arrowheads in particular reached a high degree of sophistication, before the Stone Age gave way to the Bronze Age during the 3rd–2nd millennium BCE, and the Iron Age a millennium later. The metals produced sharper, harder fighting points, and molding allowed for more uniform designs.



FLINT ARROWHEADS

DATE c. 2700–1800 BCE

ORIGIN Unknown

LENGTH 2 in (5 cm)

The bow was a significant development in weapon technology, enabling the archer to fire from a distance with power and accuracy. Made of flint, these arrowheads have barbs that would embed themselves deep inside the victim, ensuring that any attempt to remove them would be difficult.



FLINT ARROWHEAD

DATE 5500–3100 BCE

ORIGIN Egypt

LENGTH 2½ in (6.1 cm)

The Egyptians were early exponents of the bow, and it formed the most effective element within their armory. The first composite bow was portrayed on a victory monument as early as 2800 BCE. Early arrowheads such as the one shown on the right were made from flint, subsequently to be replaced by bronze.

Triangular arrowhead designed to kill victims outright

Tang



Wooden grip

ASSYRIAN BOW AND ARROWS

DATE Arrows: c. 1350 BCE

ORIGIN Assyria

LENGTH Arrows: 37½ in (95.5 cm)

While we know that the ancient Egyptians used composite bows of wood, horn, and sinew glued together, our knowledge of Assyrian bows is less clear; they may have been composite bows, or simple wooden bows. The bow and arrows shown here are replicas.

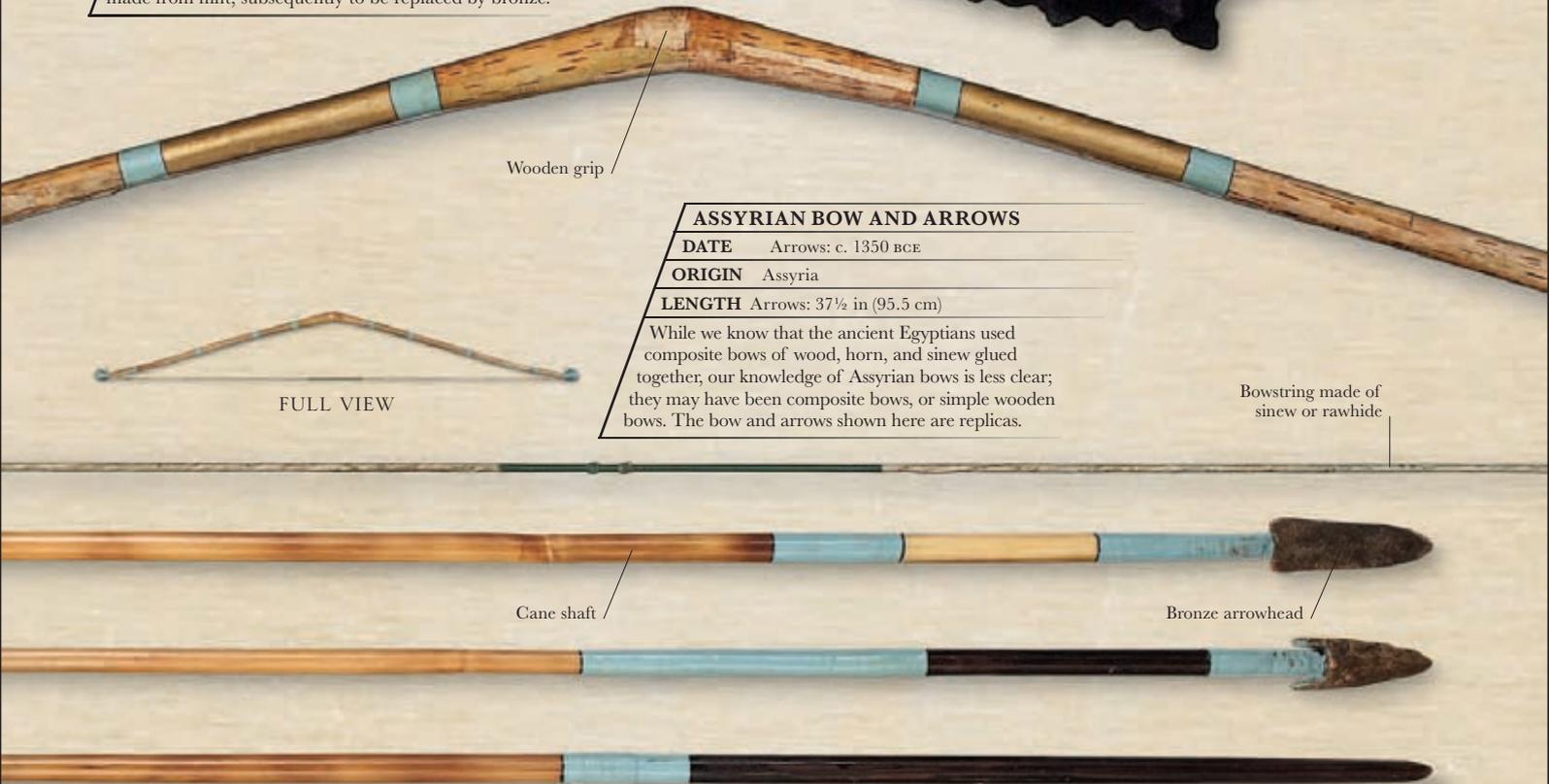
Bowstring made of sinew or rawhide

FULL VIEW



Cane shaft

Bronze arrowhead





Trident blade reinforced with central ridge

Extension fit into spear shaft

TRIDENT SPEARHEAD

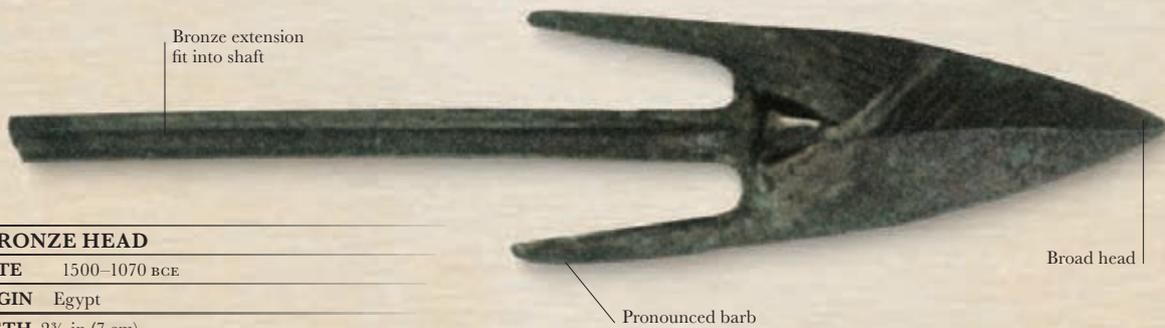
DATE	c. 1500 BCE	WEIGHT	c. 9 oz (250 g)
ORIGIN	Turkey	LENGTH	c. 9 in (23 cm)

This trident spearhead, made of cast bronze, is one of several Bronze-Age spearheads found at the ancient site of Belkis (now Zeugma) in Turkey. It would have been more effective on a thrusting rather than a throwing spear, since it would have destabilized the latter in flight.

**A BARBED SPEARHEAD
WAS IMPOSSIBLE TO EXTRACT WITHOUT
CAUSING FURTHER INJURY.**



Socket for insertion of shaft



BRONZE HEAD

DATE 1500–1070 BCE

ORIGIN Egypt

LENGTH 2¾ in (7 cm)

Used for arming either a thin spear or an arrow, this bronze head is notable for its pronounced barbs. Although expensive to produce, bronze arrowheads were widely used by the Egyptians, who attached them to shafts made from the long reeds growing along the Nile River.

BRONZE SPEARHEAD

DATE c. 2000 BCE

ORIGIN Egypt

LENGTH 10 in (25 cm)

This spearhead is typical of those carried by Egyptian infantrymen, whose main weapon was the spear. Made from bronze, it would have been used mainly on a thrusting spear. It is covered in fine linen cloth—whose weave can be seen in this view—perhaps for putting alongside its master in his grave.

Pattern of original fine Egyptian linen



Leaf-shaped spear point



FULL
VIEW

Hollow portion of
the butt into which
the shaft slotted



Long iron point

“
THE ENGAGEMENT BEGAN WITH
A SHOWER OF ARROWS...
WHEN THEY WERE ALL SPENT THEY FOUGHT
WITH SWORDS AND SPEARS.
”

HERODOTUS, GREEK HISTORIAN, 5TH CENTURY BCE



Spear point



HOPLITE SPEAR BUTT

DATE 4th century BCE

ORIGIN Macedonia (Greece)

LENGTH 15 in (38 cm)

Made from bronze, this spear butt's main purpose was to act as a counterweight to the head at the other end of the spear. However, if the spearhead broke off in battle the butt could be used as a weapon. A thick bronze ring secured the butt to the spear.



PILUM

DATE c. 1st century BCE

WEIGHT c. 6½ lb (3 kg)

ORIGIN Rome

LENGTH c. 6 ft (1.8 m)

The *pilum* was a weighted javelin with a long iron spearhead. Designed to pierce enemy shields or armor, the spearhead would bend or break after impact. This not only disabled the enemy's shield, but also prevented him from extracting the *pilum* and throwing it back. The example shown here is a modern-day replica.

Long shaft
made of ash



Wide, leaf-shaped spear



LANCEA

DATE c. 2nd century BCE

WEIGHT 21 oz (600 g)

ORIGIN Rome

LENGTH c. 4 ft (1.2 m)

The *lancea* was a light spear that Roman infantry used for both thrusting and throwing. It was much better suited to fighting enemy cavalry than the heavy and unwieldy *pilum* and became the predominant spear in the Roman army during the middle to later years of the Roman Empire.

GREEK SPEARHEAD

DATE 6th–5th centuries BCE

ORIGIN Greece

LENGTH 12 in (31 cm)

The spear was the hoplite's principal weapon. He used his short iron sword only when his spear broke during fighting. This spearhead is made of iron and has a broad blade. The missing shaft would have been fashioned from a strong wood such as ash.



BRONZE SPEARHEAD

DATE 900–800 BCE

ORIGIN Unknown

LENGTH c. 8¼ in (21 cm)

Spears and javelins (throwing spears) played an important role in Celtic battles. Charging at the enemy, the Celtic infantry would hurl javelins from about 90 ft (30 m), breaking up the ranks ahead for single combat. Both the infantry and cavalry used spears as thrusting weapons.

SHORT SAXON SPEAR

DATE 400–500 CE

ORIGIN Northern Europe

LENGTH Head: 8½ in (21.5 cm)

The spear and javelin were the main weapons of the Saxon and Frankish era. They were carried equally by a lord, his retinue, professional fighters, and troops. As with the Celts, spears were used for hand-to-hand combat, whereas javelins, which tended to be lighter, were thrown before contact with the enemy. The *angon* (Frankish spear) was much like the Roman *pilum* (pp. 54–55).

Replica shaft

Socket hammered tightly to shaft and riveted

Split socket

MANY ANGLO-SAXON SPEARS WERE LONGER THAN THE WARRIOR HIMSELF, GIVING HIM A KILLING REACH OUT FROM THE BATTLELINES.



Leaf-shaped
spearhead

LONG SAXON SPEAR

DATE 400–500 CE

ORIGIN Northern Europe

LENGTH Head: 19 in (48 cm)

The use of spears is mentioned in an Anglo-Saxon poem about the battle of Maldon, which took place in Southern England in 991 CE. It tells how Eorl Byrhtnoth, the Anglo-Saxon leader, kills two men with javelins, before he is wounded by a Viking spear. Only then does he draw his sword. Thrusting spears, like the one shown below, were longer than javelins, with larger heads attached to the shaft with a split socket.



Long head

LOZENGE-SHAPED SPEARHEAD

DATE 600–1000 CE

ORIGIN Northern Europe

LENGTH 14½ in (36.6 cm)

Throwing spears were important Viking weapons. Their use is recorded in Viking sagas, which include stories of warriors who could throw two spears at once. The Norwegian king Olaf Trygvasson (r. 995–1000) was said to be able to do this from both hands at the same time.

Steep angle of blade sides produces sharp point

Blade strengthened by rib

Spearhead sharpened on both sides

Long blade inflicted deep injuries

Long, sharp point

Central reinforcing rib



Neck of spear socket

Spear socket
fit onto shaft



Wing on each side
of the socket

WINGED SPEARHEAD

DATE 700–800 CE

ORIGIN Northern Europe

LENGTH 18 in (47 cm)

This lugged or winged spearhead is of a type used for war and hunting. The corroded iron head has a leaf-shaped blade of flattened diamond cross-section—now curved out of shape by fire or burial—and a tapered iron socket. The wings could catch and lock an opponent's weapon in hand-to-hand combat, stop a blade from sliding down toward the user's hands, or hook a shield out of the way.



Socket
for shaft

VIKING SPEARHEAD

DATE c. 8th century CE

ORIGIN Northern Europe

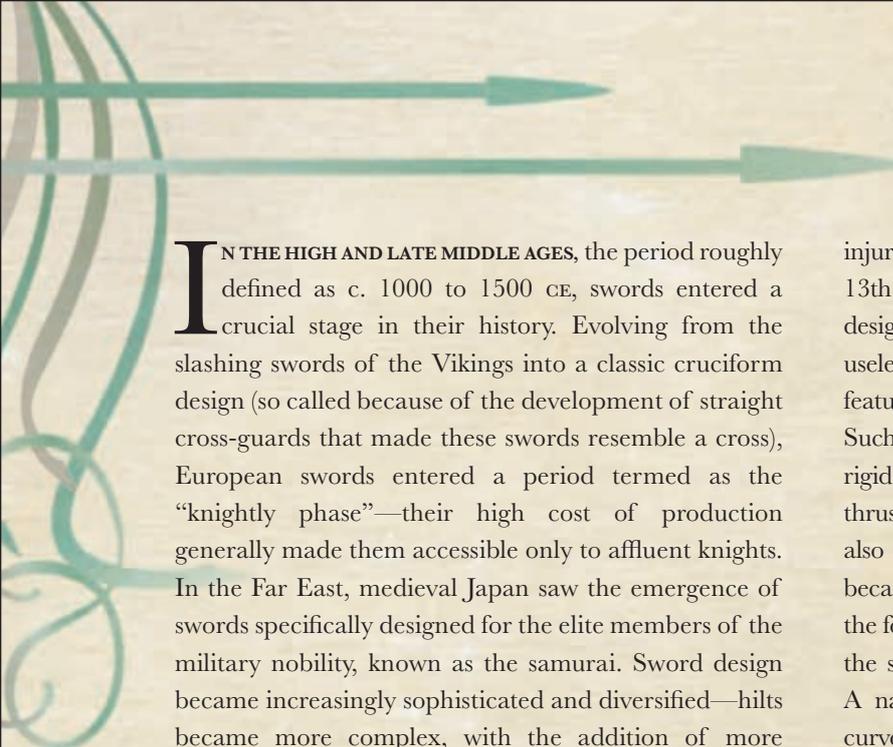
LENGTH c. 14 in (36 cm)

This Viking spearhead made a perfect throwing weapon. It was smooth in flight and the long, sharp blade could severely injure the enemy. It is strengthened by a central rib running along the center of the spearhead and has a flared socket for the shaft.





THE
MIDDLE AGES
1000—1500



IN THE HIGH AND LATE MIDDLE AGES, the period roughly defined as c. 1000 to 1500 CE, swords entered a crucial stage in their history. Evolving from the slashing swords of the Vikings into a classic cruciform design (so called because of the development of straight cross-guards that made these swords resemble a cross), European swords entered a period termed as the “knightly phase”—their high cost of production generally made them accessible only to affluent knights. In the Far East, medieval Japan saw the emergence of swords specifically designed for the elite members of the military nobility, known as the samurai. Sword design became increasingly sophisticated and diversified—hilts became more complex, with the addition of more features, and blades were designed in different shapes.



In Europe, swords became longer and more powerful, often designed to be held with a two-handed grip. Typical swords of the early 14th century, for example, had straight, broad, double-edged blades up to 4 ft (1.25 m) long, large pommels, and straight or forward-curving quillons—the extended arms of a cross-guard. In the hands of a skillful knight, such a weapon was capable of causing devastating

injuries on unprotected soldiers. Yet, from the end of the 13th century, chain-mail and plate armor pushed sword design in new directions. Slashing weapons were largely useless against armor, so thrusting weapons were developed, featuring blades with a diamond or lozenge cross-section. Such blades were thicker in the middle and therefore more rigid. A well-equipped knight would often carry both a thrusting and a slashing sword into battle. Designs of hilts also developed during this period. Cross-guards steadily became more elaborate, with additional features such as the forefinger hook, which protected the warrior’s finger if the sword was gripped by the ricasso for better control. A narrow metal strip called the knuckle guard, which curved over the length of the hilt, protected the warrior’s knuckles. These features laid the groundwork for the development of some highly ornate hilts during the Renaissance (14th–17th centuries), especially the hilts of long thrusting swords known as rapiers, which became common in the 16th century.



Outside Europe, sword design followed different paths. The Islamic world, which consisted of the Middle East, North Africa, Central Asia, and India, favored curved,

single-edged swords. Such swords were ideal for the cavalry-style warfare of the Muslim armies, and were decorated with scrollwork and religious texts. Farther east, Asian swordsmiths were also producing single-edged swords that displayed some degree of curve. In Japan, prior to the 10th century, the two primary types of blade were the straight single-edged *chokuto* and the double-edged *warabiti-tachi*. From the 10th century, however, Japanese swords, called *katana*, began featuring a graceful curve. By the late medieval period, the samurai had started pairing the long *katana* with a shorter, more curved sword called the *wakazashi*. Two classic sword types also emerged in China during the medieval period—the straight, double-edged *jian* and the deeply curved, single-edged, and one-handed *dao*, as well as its two-handed version, the *dadao*. Although both the *jian* and the *dao* were used up until the 19th century, it was the curved *dao* that predominated, mainly because it suited the style of warfare adopted by the Chinese cavalry. Similarly, India developed the curved *talwar*. Produced from the 14th century, it reached a highly refined form during the 16th century. While all these developments were taking place across the world, certain societies were yet to discover metal and its benefits in sword construction. Weapons used by warriors of the Aztec

Empire were still being made from stone and wood, and were no match for the sophisticated European swords they would face in the near future.

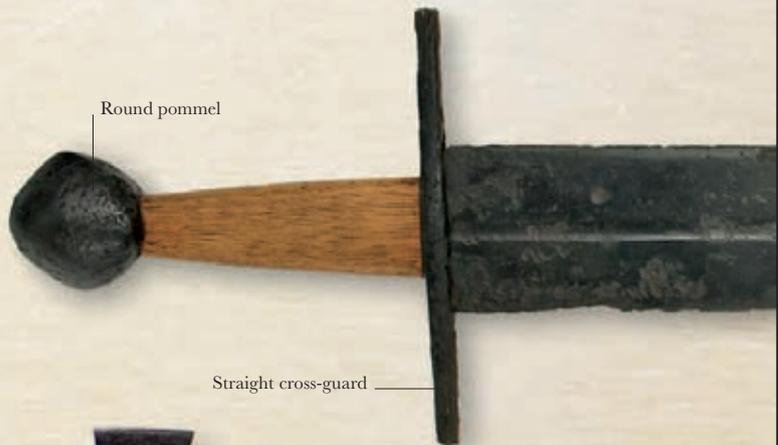


Since swords remained expensive items affordable only to affluent officers, staff weapons, or polearms—blades fixed to long wooden shafts—were developed to equip the ordinary foot soldier with powerful killing tools. In Europe, polearms such as the *fauchard*, *glaive*, and *guisarme* enabled the infantry to ward off cavalry attacks, as well as put distance between themselves and the enemy. During the 14th century, the versatile halberd came into use—the weapon featured an ax blade, a long stabbing knife, and a hook to dismount cavalry. Similar types of staff weapon were found across the world, such as the *guan dao* of China and the *saintie* of India. In the right hands, these weapons could easily match the more refined sword in battle.

THE MIDDLE AGES

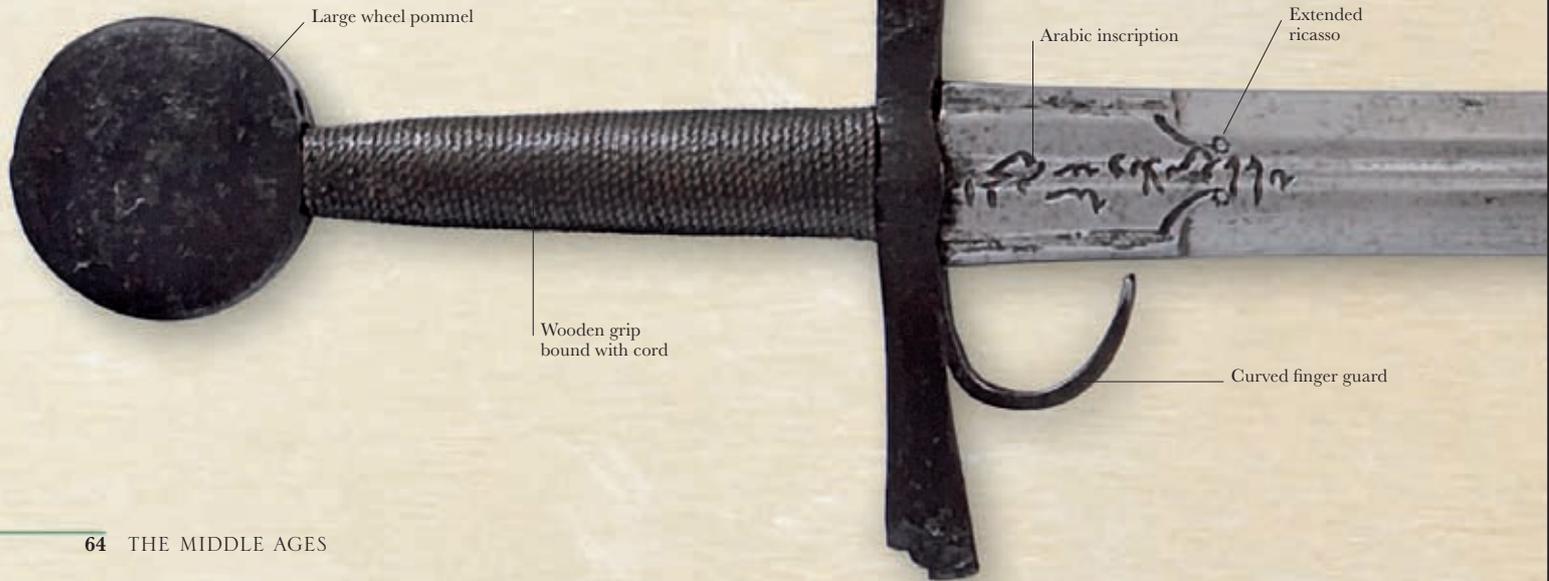
EUROPEAN SWORDS

In medieval Europe, the sword was the most highly regarded of all weapons. It was not only a magnificent weapon of war—often handed down through the generations—but had also evolved into a symbol of status and prestige; a man became a knight by the dubbing of a sword on his shoulders. Early medieval swords were heavy cutting weapons that were used to hack their way through chain-mail armor. The development of high-quality plate armor led to the introduction of sharply pointed thrusting swords, whose blades became progressively longer.



Round pommel

Straight cross-guard



Large wheel pommel

Wooden grip
bound with cord

Arabic inscription

Extended
ricasso

Curved finger guard



FULL VIEW

CRUSADER SWORD

DATE	12th century	WEIGHT	2¼ lb (1.27 kg)
ORIGIN	Western Europe	LENGTH	38 in (96.5 cm)

This type of sword—with its broad blade, simple cross-guard, and pommel—became popular during the Crusades and spread throughout Europe. The heavy cutting blade would have been devastating against lightly armed opponents.

Double-edged
cutting blade



FULL VIEW

Long, double-
edged blade

ITALIAN SWORD

DATE	c. 1400	WEIGHT	26 oz (760 g)
ORIGIN	Italy	LENGTH	3½ ft (1.04 m)

This sword, probably Italian in origin, has an Arabic inscription on its ricasso stating that it was given to the Arsenal of Alexandria by an Egyptian Sultan in 1432. The long ricasso enabled the swordsman to hook his forefinger over the cross-guard and grip the blade, thereby gaining better control.

FRENCH SWORD

DATE	14th century	WEIGHT	2½ lb (1.16 kg)
ORIGIN	France	LENGTH	34 in (85.7 cm)

Reflecting the need to overcome the plate armor that was becoming increasingly common in the 14th century, this powerful sword was used both for delivering heavy cutting blows and for thrusting. The double-edged blade is wide at the hilt and tapers rapidly to a sharp point to penetrate an opponent's armor.

Sharp point for penetrating armor

Disk pommel with edges chamfered (cut off)

Square cross-section tang

Raised shield with incised coat of arms

Tapering quillon

RIDING SWORD

DATE	c. 1325	WEIGHT	25 oz (710 g)
ORIGIN	England	LENGTH	32 in (80 cm)

This heavily corroded sword is called a "riding sword," since it was the personal sidearm of a mounted knight. It has a decorated copper-alloy disk pommel and quillons slightly inclining toward the blade, which is double-edged and with a flattened diamond cross-section.

FULL VIEW

Shallow fuller



Diamond cross-section to blade

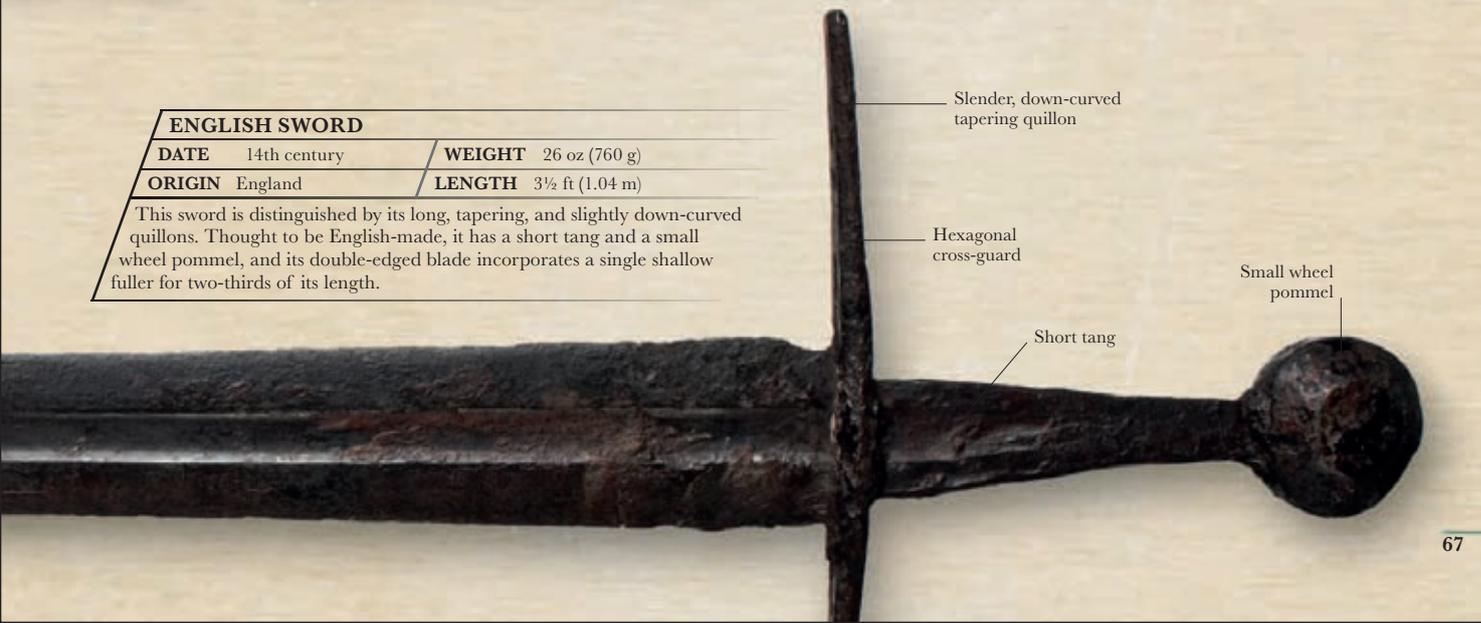
Large, round pommel

Downward-curving quillon on cross-guard

Heavily corroded blade

ENGLISH SWORD			
DATE	14th century	WEIGHT	26 oz (760 g)
ORIGIN	England	LENGTH	3½ ft (1.04 m)

This sword is distinguished by its long, tapering, and slightly down-curved quillons. Thought to be English-made, it has a short tang and a small wheel pommel, and its double-edged blade incorporates a single shallow fuller for two-thirds of its length.



Slender, down-curved tapering quillon

Hexagonal cross-guard

Small wheel pommel

Short tang

TOURNAMENT COMBAT

Medieval tournaments were a way for knights to practice and display their skills when not at war. Although warrior games predated the Middle Ages, tournaments seem to have become popular only from the 11th century. There were two main elements to the tournament—the *mêlée* and the joust.



The *mêlée* was essentially a free-for-all mock battle between mounted and dismounted knights, who were armed with a wide range of weapons, including falchions, broadswords, bastard swords, great swords, and maces. The objective of the *mêlée* was to capture or disable competing knights. The competitions

could sometimes turn bloody—in 1241, at Neuss in Germany, more than 60 people died in a tournament *mêlée*. Such extensive loss of life rendered the *mêlée* unpopular, and by the 14th century jousting became the more prominent tournament game. Jousting involved two mounted, armored knights charging one another with couched lances (a lance clamped under the armpit). The battle took place in special roped-off enclosures within fields, with the knights riding toward each other along each side of a long barrier. The principal objective of the joust was to unseat the opponent with an accurate lance strike to the chest or head—a blow delivered at full gallop. This spectacular event remained popular until the early 17th century.



“
KNIGHTS FELL IN SUCH NUMBERS, SOME DEAD
SOME PERMANENTLY DISABLED,
THAT IT SEEMED THE
SPORT OF DEMONS.”

THOMAS OF CANTIMPRE, DESCRIBING THE
TOURNAMENT MÊLÉE AT NEUSS, 1241

JOUSTING LANCE

DATE	c. 15th century	WEIGHT	c. 40 lb (18 kg)
ORIGIN	Europe	LENGTH	c. 10 ft (3 m)

Medieval jousting lances were massive pieces of oak that could be as long as 14 ft (4.2 m). The vamplate (the wide portion of the lance just in front of the grip) was developed to protect the knight's hand. Unlike a lance used in battle, the jousting lance was not equipped with a penetrating metal head.

Tapered shaft

KNIGHTS JOUSTING

This 14th-century French manuscript illumination from *The Great Chronicles of Saint Denis* depicts a tournament during the reign of Charles V.



DOUBLE-EDGED SWORD

DATE 1150–1200 / **WEIGHT** 4½ lb (1.95 kg)

ORIGIN Germany / **LENGTH** 32 in (82.2 cm)

A knight's rusted medieval broadsword, this sword is characterized by a broad blade and a rounded point. Distinctive features also include a simple cross-guard, short hilt, and large oval pommel. It was used primarily as a heavy cutting sword.



Long, thin fuller

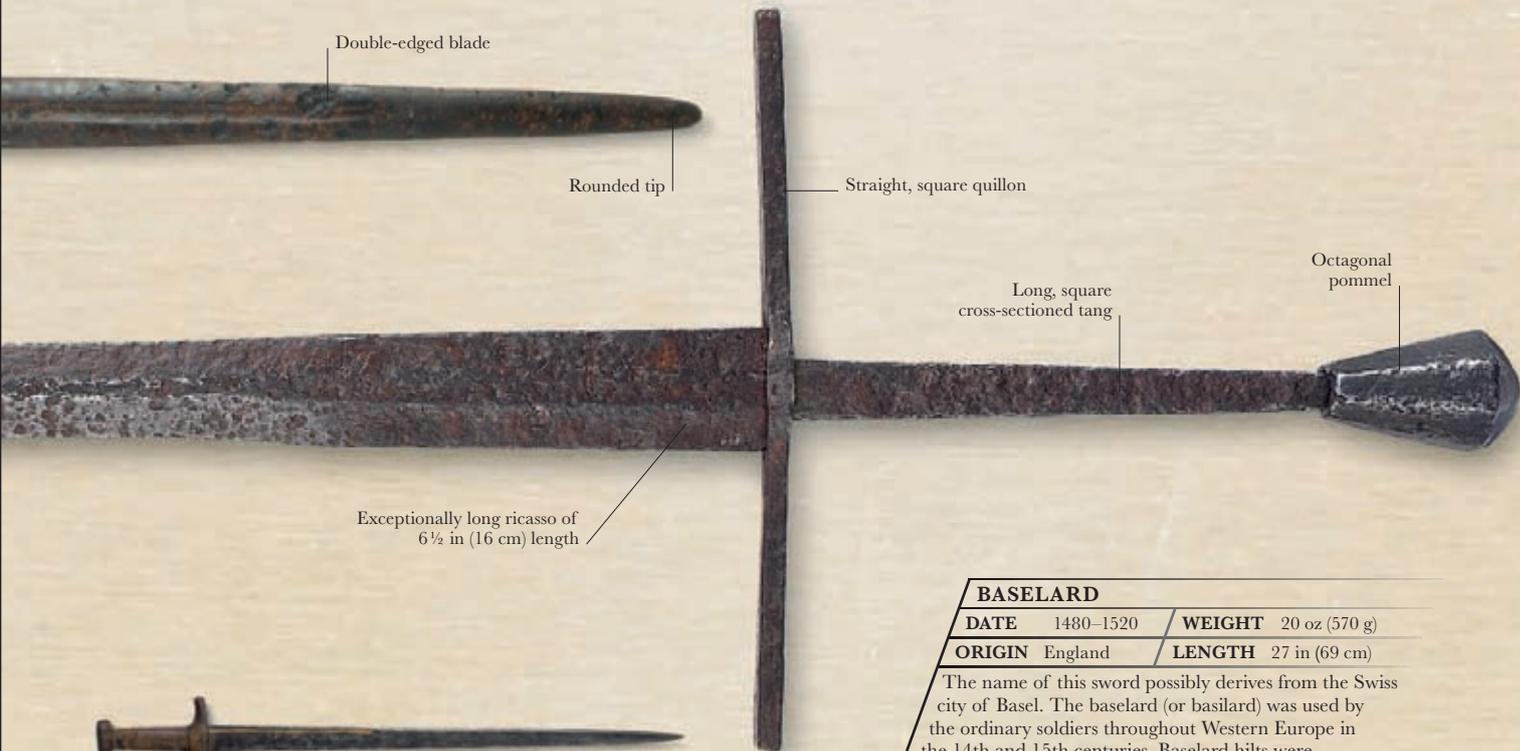
HAND-AND-A-HALF SWORD

DATE Early 15th century / **WEIGHT** 3¼ lb (1.54 kg)

ORIGIN England / **LENGTH** 4 ft (1.19 m)

Also known as a “bastard” sword, this long-bladed weapon was primarily used for thrusting at an opponent. To improve direction and give greater power, it was provided with an extra long handle so that it could be gripped with both hands when necessary.





Double-edged blade

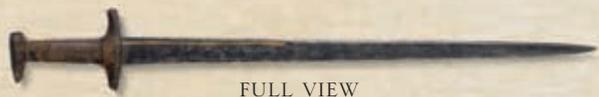
Rounded tip

Straight, square quillon

Long, square cross-sectioned tang

Octagonal pommel

Exceptionally long ricasso of 6½ in (16 cm) length



FULL VIEW

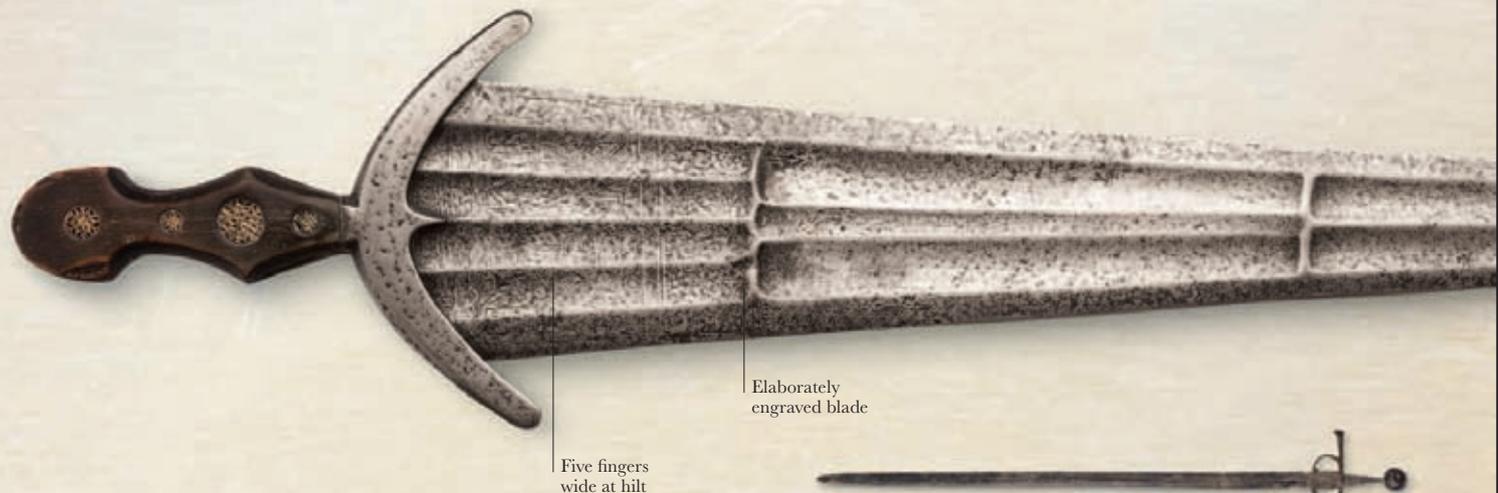
Single-edged blade

BASELARD

DATE 1480–1520 / **WEIGHT** 20 oz (570 g)

ORIGIN England / **LENGTH** 27 in (69 cm)

The name of this sword possibly derives from the Swiss city of Basel. The baselard (or basilard) was used by the ordinary soldiers throughout Western Europe in the 14th and 15th centuries. Baselard hilts were usually made of wood or bone.



Five fingers
wide at hilt

Elaborately
engraved blade



FULL VIEW

BRONZE GILDED SWORD

DATE 15th century **WEIGHT** 3 lb (1.34 kg)

ORIGIN Italy **LENGTH** 35 in (88.3 cm)

The ornate sword below features bronze gilding on both the hilt and the pommel. The grip is made of black horn and is carved to flow into the fish-tailed pommel. The four-sided, double-edged blade is in remarkably good condition and tapers to a sharp fine point.

Double-edged blade
of hexagonal
cross-section

Double-edged blade





Sharp point for thrusting

CINQUEDEA

DATE c. 1480	WEIGHT c. 29 oz (800 g)
ORIGIN Italy	LENGTH 28 in (71 cm)

The *cinque dea* was a type of short sword popular with wealthy Italians in the 15th century. The name, meaning “five fingers,” refers to the blade, which was five fingers wide at the hilt. The sword length varied from 10 in (25 cm) to 28 in (71 cm) and was carried in a scabbard over the buttocks.



Wheel pommel

Tang without grip

Double looping finger guard

TRANSITIONAL SWORD

DATE c. 1500	WEIGHT 33 oz (940 g)
ORIGIN Italy	LENGTH 3¼ ft (1.03 m)

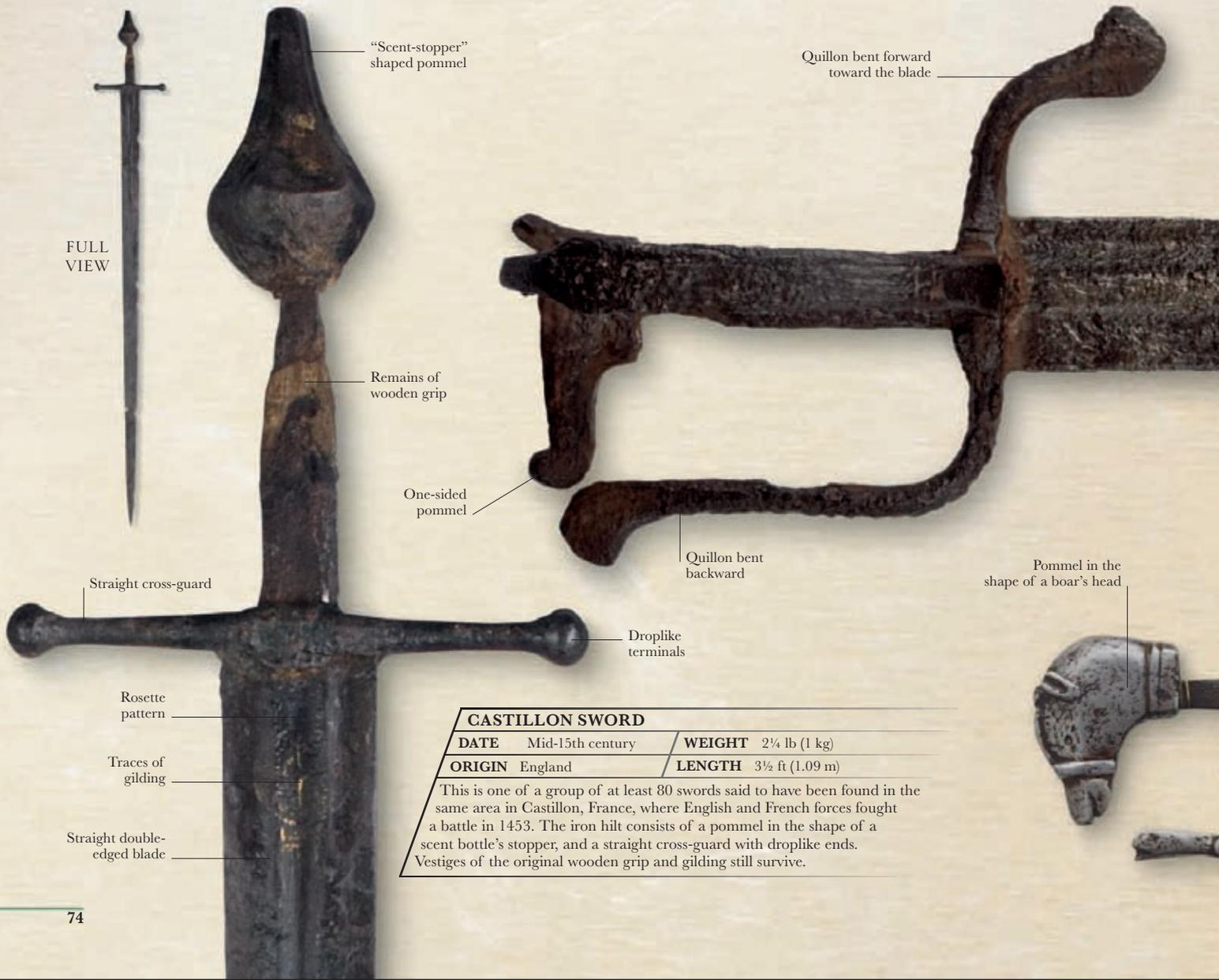
This sword is a transitional weapon, shifting in design from the classic cross-shaped-hilt medieval sword to the rapier (thrusting sword with a long blade) of the 16th century. The short tang suggests that the swordsman’s fingers gripped the ricasso, where they were protected by a double finger guard.



Bronze gilded guard

Pommel in the shape of fish tail

Carved, black horn grip



FULL
VIEW

“Scent-stopper”
shaped pommel

Quillon bent forward
toward the blade

Remains of
wooden grip

One-sided
pommel

Quillon bent
backward

Pommel in the
shape of a boar’s head

Straight cross-guard

Droplike
terminals

Rosette
pattern

Traces of
gilding

Straight double-
edged blade

CASTILLON SWORD

DATE Mid-15th century

WEIGHT 2¼ lb (1 kg)

ORIGIN England

LENGTH 3½ ft (1.09 m)

This is one of a group of at least 80 swords said to have been found in the same area in Castillon, France, where English and French forces fought a battle in 1453. The iron hilt consists of a pommel in the shape of a scent bottle’s stopper, and a straight cross-guard with droplike ends. Vestiges of the original wooden grip and gilding still survive.

SHORT SWORD

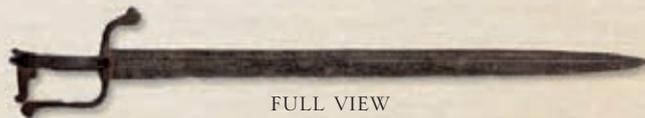
DATE c. 1500

WEIGHT 28½ oz (790 g)

ORIGIN England

LENGTH 29½ in (74.5 cm)

Used primarily by foot soldiers, this English-style sword was designed with a single edge and a sharp point. The quillon at the bottom is longer and extends backward toward the pommel, which has a protrusion on the same side, thereby forming a simple knuckle guard.



FULL VIEW

Single-edged blade

CUTTING SWORD

DATE c. 1500

WEIGHT 32 oz (900 g)

ORIGIN England

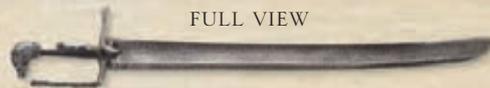
LENGTH c. 29 in (74 cm)

With its slightly curved, single-edged, and pointed blade, this hunting sword or hanger was best suited to a slashing action. Hangers were also worn by foot soldiers as military side arms. The sword design is relatively plain, aside from the pommel, which is cast in the shape of a boar's head.

Iron hilt with missing grip

Wide fuller

Single-edged blade



FULL VIEW

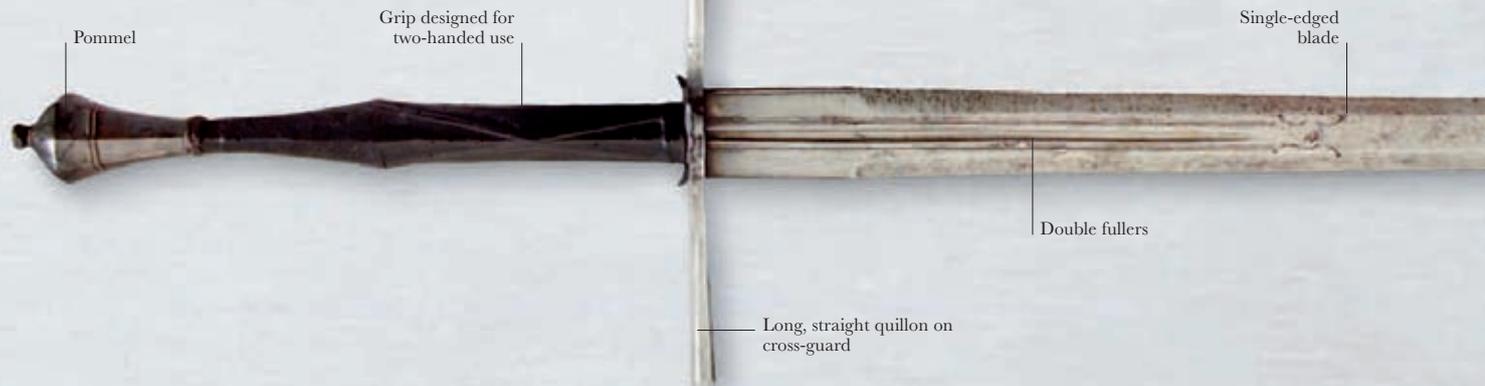
MEDIEVAL KNIGHT

The knight was the elite fighting man of medieval Europe. Starting off as a mere military servant to a local lord in the 9th or 10th century, he gradually achieved a high social standing among warriors, admired for his skill with the sword and spear.



The shift from a simple soldier to noble warrior during the Middle Ages brought about changes in a knight's armor and weapons. An 11th-century knight typically

wore a hauberk (a coat of chain-mail) and a conical helmet. By the 15th century, a knight's armor had evolved into a full suit of expensive plate armor. His weaponry expanded to include war hammers and maces, as well as long, single- or double-edged swords, such as the greatsword shown here. Although the classic form of combat was charging on horseback, knights were equally adept at fighting on foot. Adapting well to the constantly evolving challenges of the medieval battlefield, knights remained a dominant force until the 16th century.



“
WHEN BATTLE IS JOINED,
NO NOBLE KNIGHT
THINKS OF ANYTHING OTHER THAN
BREAKING HEADS AND ARMS.
”

FRENCH BARON BERTRAN DE BORN (c. 1140–1215)

GREATSWORD

DATE c. 16th century / **WEIGHT** c. 5½ lb (2.5 kg)

ORIGIN Germany / **LENGTH** c. 4½ ft (1.4 m)

The greatsword was a single-edged weapon that could be swung with both hands to deliver a powerful slashing blow. The blade of this sword was made in Germany, a country famed for the talent of its swordsmiths.

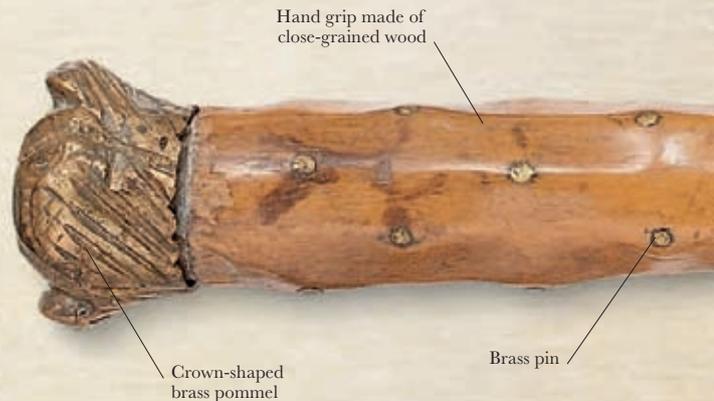
FIERCE COMBAT

This 14th-century illuminated manuscript, depicting German Emperor Henry VII's defeat of Milanese forces in 1311, shows mounted knights attacking each other with broadswords. Medieval knights used greatswords and broadswords during combat. The double-edged broadswords were designed to hack through chain-mail coats.



EUROPEAN DAGGERS

Medieval daggers were used mainly for self-defense, assassinations, and close-combat fighting, where a sword would be too cumbersome, or when a sword had lost or broken in action. Traditionally, daggers were considered a weapon of the lower classes, but during the 14th century, men-at-arms and knights began to carry them, with the weapon normally being worn at the right hip.



14th CENTURY QUILLON DAGGER

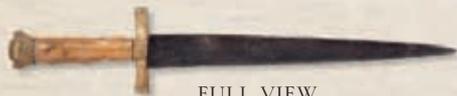
DATE	14th century	WEIGHT	3½ oz (110 g)
ORIGIN	England	LENGTH	12 in (30.8 cm)

This dagger is so named because it resembles a scaled-down version of a sword, with prominent quillons that curve down toward the blade. It has an unusual pommel—mirroring the quillons—that is curled around a rivet. Sword daggers were typically carried by men of high rank, especially when they were not wearing armor.





Symmetrical
brass quillons



FULL VIEW



Single-edged blade with
triangular cross-section

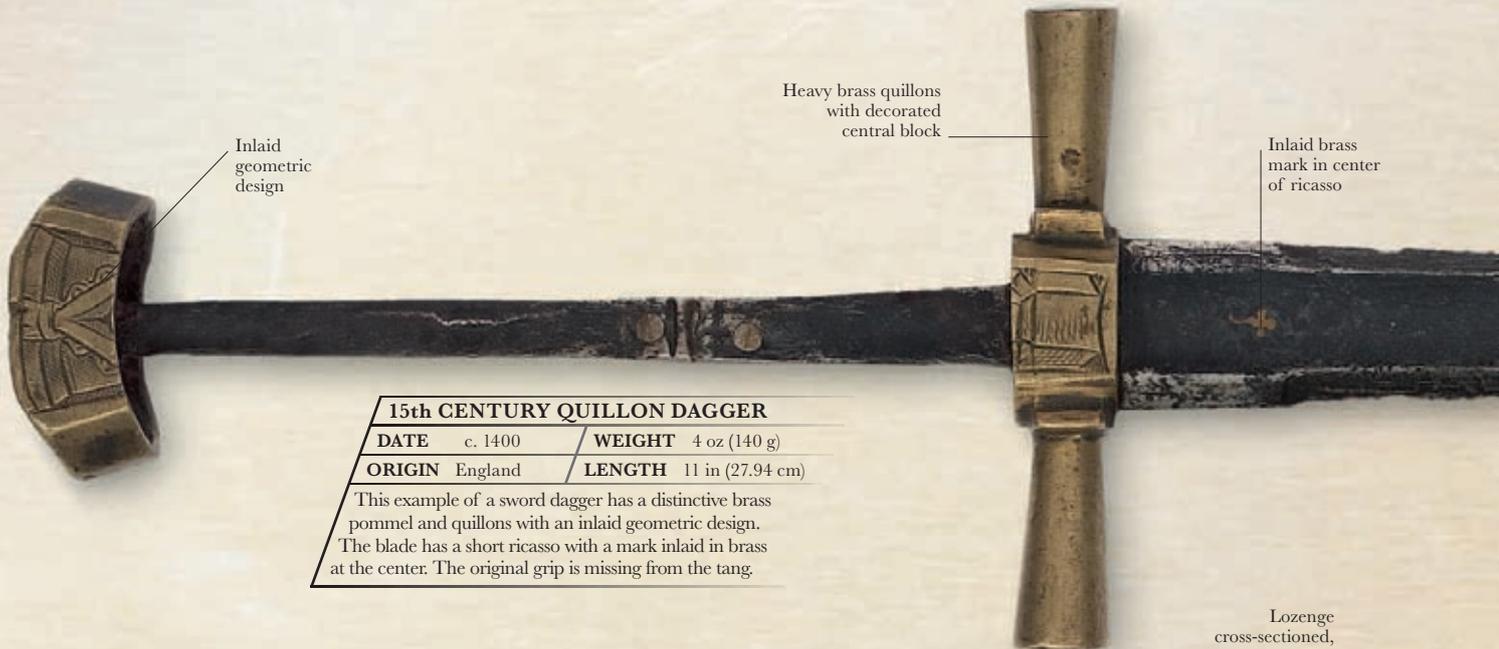
16th CENTURY QUILLON DAGGER

DATE	16th century	WEIGHT	9 oz (260 g)
ORIGIN	England	LENGTH	13½ in (34.5 cm)

This English dagger is distinguished by brass quillons, a crown-shaped brass pommel, and an unusual, scalloped grip highlighted with pins. The heavy, single-edged blade—triangular in shape, with a spearpoint—could have been used for both thrusting and cutting.



Double-edged blade with
rectangular cross-section



15th CENTURY QUILLON DAGGER

DATE	c. 1400	WEIGHT	4 oz (140 g)
ORIGIN	England	LENGTH	11 in (27.94 cm)

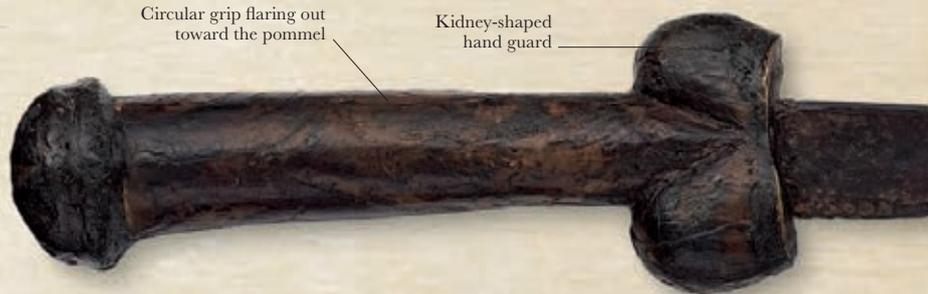
This example of a sword dagger has a distinctive brass pommel and quillons with an inlaid geometric design. The blade has a short ricasso with a mark inlaid in brass at the center. The original grip is missing from the tang.

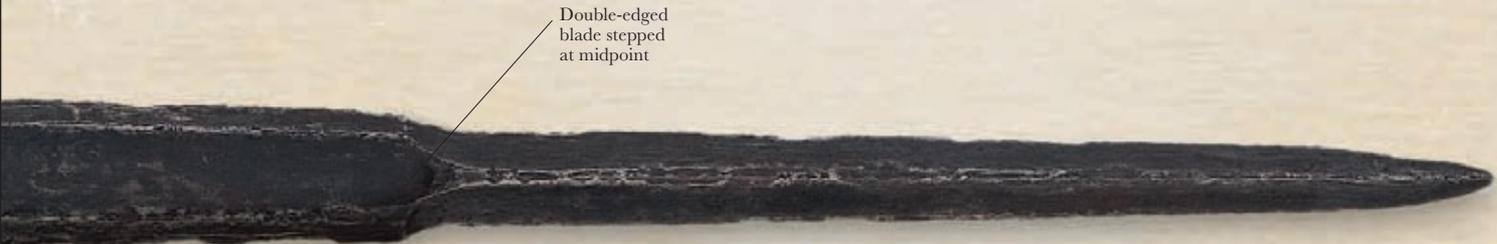


BALLOCK DAGGER

DATE	c. 1500	WEIGHT	6 oz (170 g)
ORIGIN	England	LENGTH	13¼ in (34.9 cm)

Also known as a “kidney dagger,” this weapon was named after the distinctive shape of its guard, which had two rounded lobes. The ballock dagger was used throughout Europe, although it was most popular in England and the Low Countries and equipped soldiers of all ranks.





Double-edged
blade stepped
at midpoint

RONDEL DAGGER

DATE 15th century

WEIGHT 8 oz (230 g)

ORIGIN England

LENGTH 13¼ in (35 cm)

The rondel dagger—the name derived from the Old French *rond* for “round”—is distinguished by its round, disklike guard and pommel. It was also known by its French name, *dague à rouelles*, and was a popular dagger with the gentry and aristocracy.



Lower rondel with
wooden hilt

Heavy, faceted blade

Round pommel fitted
with conical metal cap

BASELARD

DATE	15th century	WEIGHT	5 oz (140 g)
ORIGIN	Europe	LENGTH	12 in (30.5 cm)

This simple, single-edged short sword would ideally be used against lightly armored opponents. This example has a reconstructed H-shaped hilt—made of bone, with a brass reinforcing strip on the rudimentary cross-guard—combined with the original broad blade that tapers to a sharp point.

Single-edged blade,
now heavily corroded

Heavy, straight
cross-guard
protects hand

QUILLON DAGGER

DATE	15th century	WEIGHT	11 oz (290 g)
ORIGIN	England	LENGTH	15¾ in (40 cm)

This dagger is a good example of the more basic and widely used daggers of the late Middle Ages, crudely constructed for the ordinary fighting man. Among its unusual features are its hammerhead pommel and the horizontally S-shaped quillons of the guard.

Hammerhead
pommel

Quillon formed by
two bone plaques



FULL VIEW

Brass strip

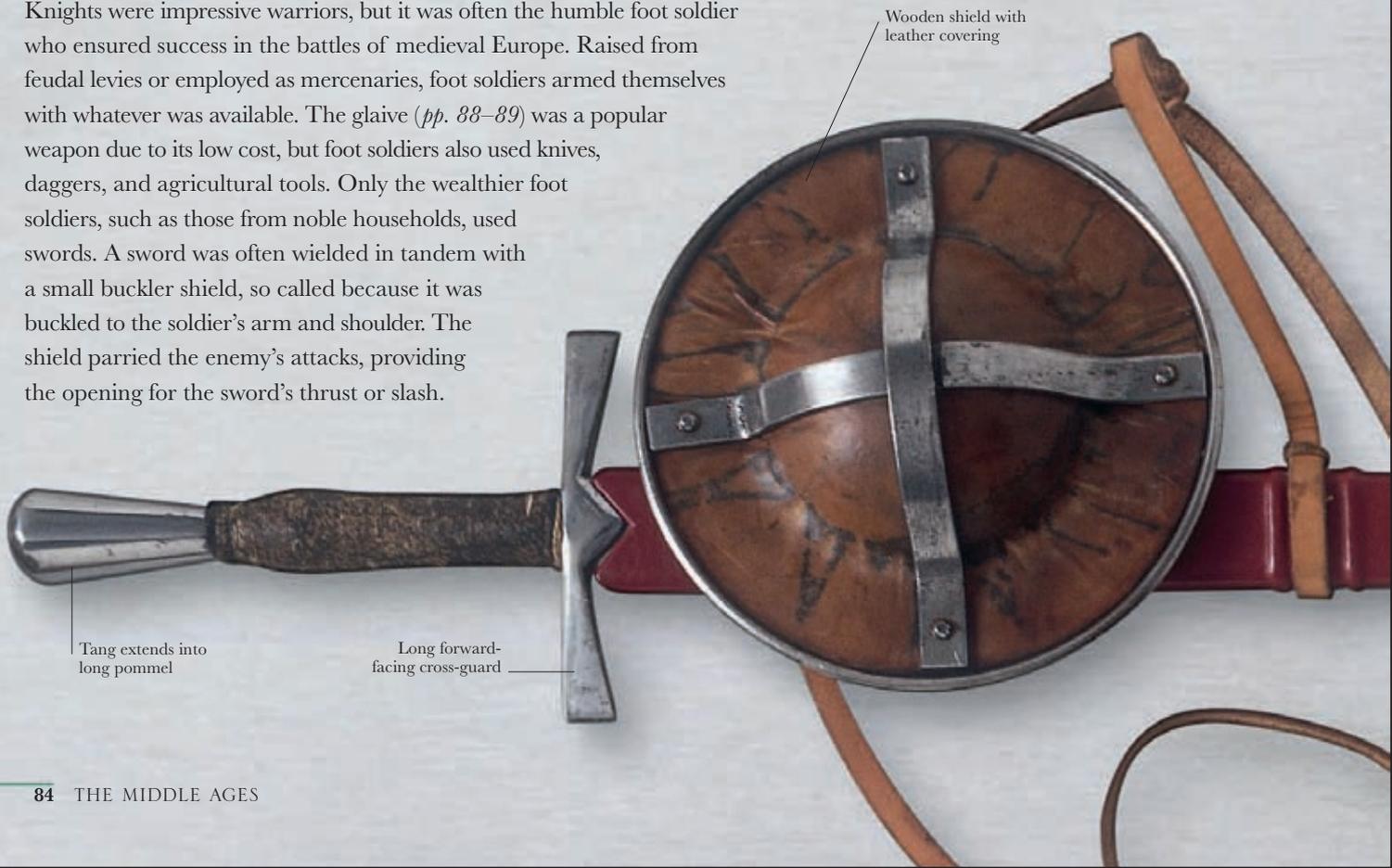
Single-edged blade



FULL VIEW

MEDIEVAL FOOT SOLDIER

Knights were impressive warriors, but it was often the humble foot soldier who ensured success in the battles of medieval Europe. Raised from feudal levies or employed as mercenaries, foot soldiers armed themselves with whatever was available. The glaive (*pp. 88–89*) was a popular weapon due to its low cost, but foot soldiers also used knives, daggers, and agricultural tools. Only the wealthier foot soldiers, such as those from noble households, used swords. A sword was often wielded in tandem with a small buckler shield, so called because it was buckled to the soldier's arm and shoulder. The shield parried the enemy's attacks, providing the opening for the sword's thrust or slash.



Wooden shield with
leather covering

Tang extends into
long pommel

Long forward-
facing cross-guard

“
**DO NOT ALLOW THE ENEMY
TO BREAK THROUGH YOUR RANKS... KILL BOTH
MAN AND HORSE.**
”

FLEMISH GENERAL WILLIAM OF JÜLICH TO HIS FOOT SOLDIERS, 1302

SINGLE-HANDED SWORD WITH SHIELD

DATE c. 13th century	WEIGHT c. 2¾ lb (1.25 kg)
ORIGIN Britain	LENGTH c. 38 in (96.5 cm)

This medieval sword and buckler shield that would have been used by a wealthy foot soldier. The sword (inside the scabbard) follows the cruciform pattern of many medieval swords, with its heavy cross-guard and long, double-edged blade. The buckler shield is made from wood, covered with leather, and reinforced with iron strips. The example shown here is a modern replica.

DANISH FOOT SOLDIERS

A medieval woodcarving depicts an expedition of Danish soldiers. The soldier in the center carries a single-handed sword, slung on his waist belt, while others grip arrows and clubs.



EUROPEAN STAFF WEAPONS

The long, two-handed staff weapons of the Middle Ages were used primarily by infantrymen as a defense against the otherwise invincible armored knight. In 1302, at the battle of Courtrai (in present-day Belgium), a rag-tag army of Flemish peasants and townspeople defeated a force of armored French cavalry using long, axlike weapons, which were forerunners of the halberd. The power generated while thrusting the long shafts of the staff weapons meant that even if armor was not penetrated, the infantry could deliver a severe injury. Cavalry were also armed with pole arms, although these were single-handed weapons like the war hammer and mace. They could be wielded on horseback and were capable of severely injuring even heavily armored soldiers.

POLEAX

DATE 1470

ORIGIN France

LENGTH Head: 12½ in (32 cm)

The poleax was a multipurpose weapon. Its spike was used for thrusting, the ax blade for cutting through armor, and the hammerhead for crushing tissue and bones. This poleax has long langets and a rondel, or disk, which helped to protect the wielder's hands from enemy weapons that slid down the shaft.

Long thin spike

Hammer-
head

Broad
axhead

Langet, a steel strip to
protect wooden shaft
from edged weapons

FULL
VIEW

SWISS HALBERD

DATE c. 1480

ORIGIN Switzerland

LENGTH Head: 18½ in (47.3 cm)

Developed by the Swiss in the 13th century, the halberd was primarily a slashing weapon, although its spike could be used for thrusting. The fearsome Swiss infantry used halberds to great effect in 1315 at the battle of Morgarten, where they destroyed an Austrian army.

Spike

Long spike

GERMAN HALBERD

DATE c. 1500

ORIGIN Germany

LENGTH Head: 16¼ in (41.2 cm)

During the 16th century halberds became increasingly decorative in style, but this example, dated around 1500, is very much a utilitarian weapon of war. It combines a powerful spike with a diagonal ax blade and a hooked fluke, or barb.

Fluke

Long blade

Socket

Langet

Angled narrow blade

Small fluke

Langet pin

FULL VIEW



Lower part of blade
attached to shaft

GLAIVE

DATE c. 4th century / **WEIGHT** c. 6½ lb (3 kg)

ORIGIN England / **LENGTH** c. 8 ft (2.5 m)

The glaive was a humble staff weapon of the medieval age. Its wooden shaft measured up to 6½ ft (2 m) and was capped by a long blade, which sometimes had a protruding hook on its back edge. The glaive was a powerful weapon when used by mass infantry and was particularly effective in fighting off cavalry attacks.



FULL VIEW

Guard to prevent
overpenetration

BARDICHE

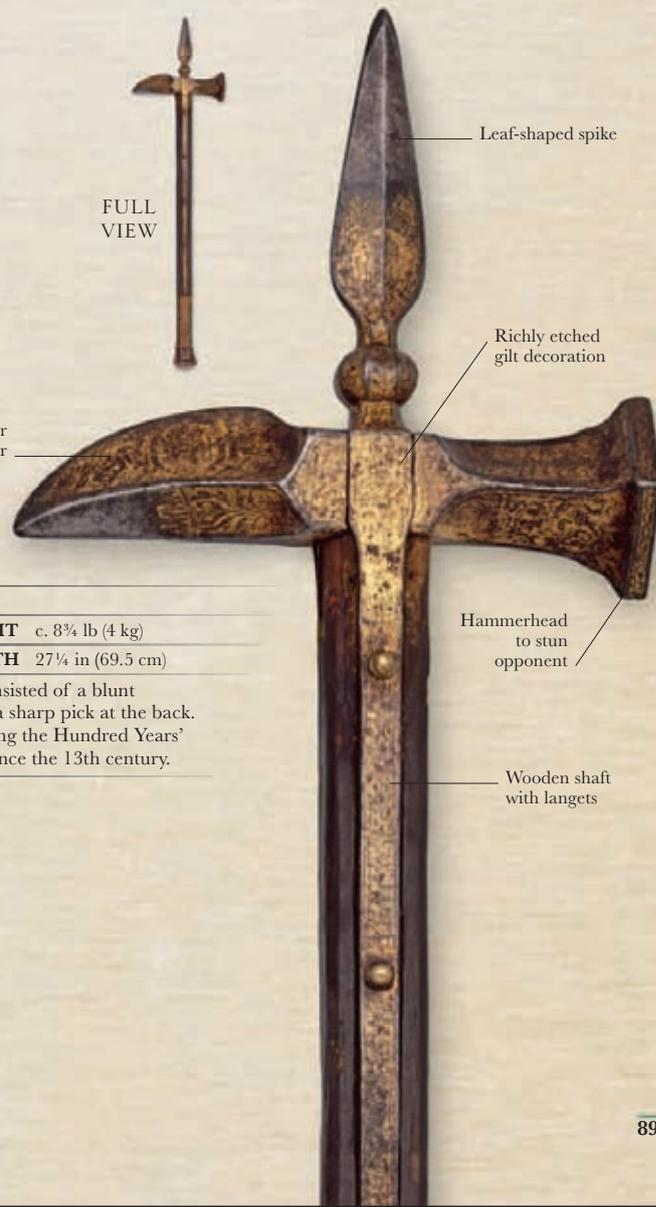
DATE Late 15th century **WEIGHT** c. 5½ lb (2.5 kg)

ORIGIN Russia **LENGTH** Head: 30 in (77 cm)

The bardiche, a form of poleax, was popular in Scandinavia, Eastern Europe, and Turkey from the 15th to 17th centuries. A notable feature of the weapon was the attachment of the lower end of the axhead to the wooden shaft.



FULL
VIEW



WAR HAMMER

DATE Late 15th century **WEIGHT** c. 8¾ lb (4 kg)

ORIGIN Italy **LENGTH** 27¼ in (69.5 cm)

The single-handed war hammer typically consisted of a blunt hammerhead or set of claws at the front and a sharp pick at the back. The weapon became increasingly popular during the Hundred Years' War (1337–1453), although it had been in use since the 13th century.





ENGRAVED AXHEAD

DATE	c. 1100	WEIGHT	c. 2¼ lb (1 kg)
ORIGIN	Germany	LENGTH	c. 9 in (23 cm)

Axes were increasingly used by medieval warriors, who often threw them with deadly accuracy. The Bayeux Tapestry, a medieval embroidery depicting the Norman conquest of England in 1066, shows several instances of foot soldiers using both single- and double-handed axes.

Engraved geometric design on blade

Socket for shaft

Fine, tapering point



LANCE HEAD

DATE	Medieval	WEIGHT	c. 11 oz (300 g)
ORIGIN	Europe	LENGTH	7½ in (19.4 cm)

The lance was a defining weapon of the medieval knight, who used the momentum of his horse to thrust it with deadly effect. A typical lance was 14 ft (4.3 m) in length. The shaft was made from hardwood such as ash and equipped with a small iron or steel head.



Circular socket

Replica shaft

LONG-HANDLED AX

DATE 13th century

ORIGIN Europe

In the 11th century axes were used only by the English Saxons and Scandinavian warriors, but during the next two centuries, the weapon became common throughout continental Europe. This long-handled ax was used with both hands.

SHORT AX

DATE 14th century

ORIGIN Europe

Although heavily rusted, the highly curved blade of this single-handed ax is clearly visible. Unlike other axes, where the shaft was inserted into the axhead's socket, this example has a tanglike projection that was forced over the shaft. Another distinctive feature is the spike at the back.



Curved blade

Pronounced spike

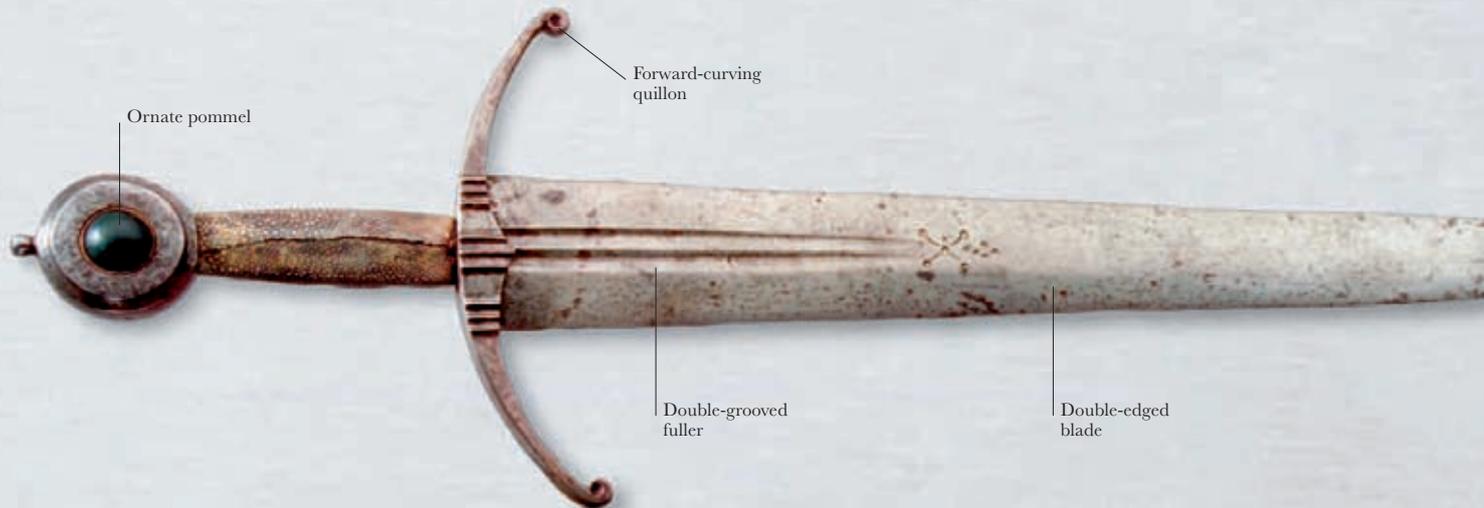
Tanglike projection
attaches axhead
to shaft

Replica shaft

MEDIEVAL FIGHT BOOKS

Frequent wars in 14th-century Europe led to a growing interest in acquiring fighting skills. As a result, techniques of armed fighting began to be steadily recorded in fight books—practical combat guides for professional soldiers, or men-at-arms. By using illustrations as well as text, such books offered step-by-step instructions on fighting techniques. For example, to master an arming sword (below), a swordsman could refer to a fight

book for instructions on how to parry, stab, slash, and fight against armored and polearm-equipped opponents. Volumes ranged from short pamphlets to major works that included all styles of fighting. The most impressive volumes came from Italy and Germany, such as *Fior di Battaglia* (“flower of battle”) by Fiore dei Liberi and a series of *fechtbuchs* (“fight books”) by Hans Talhoffer, a German fencing master.



adū q̄t
offine d̄is
7 d̄unt ill̄

“ GRAB THE OPPONENT’S SWORD, PUSH BOTH THE SWORD AND THE OPPONENT AWAY FROM YOU AND FINISH HIM OFF. ”

HANS TALHOFFER, *FECHTBUCH AUS DEM JAHRE, 1467*

ARMING SWORD

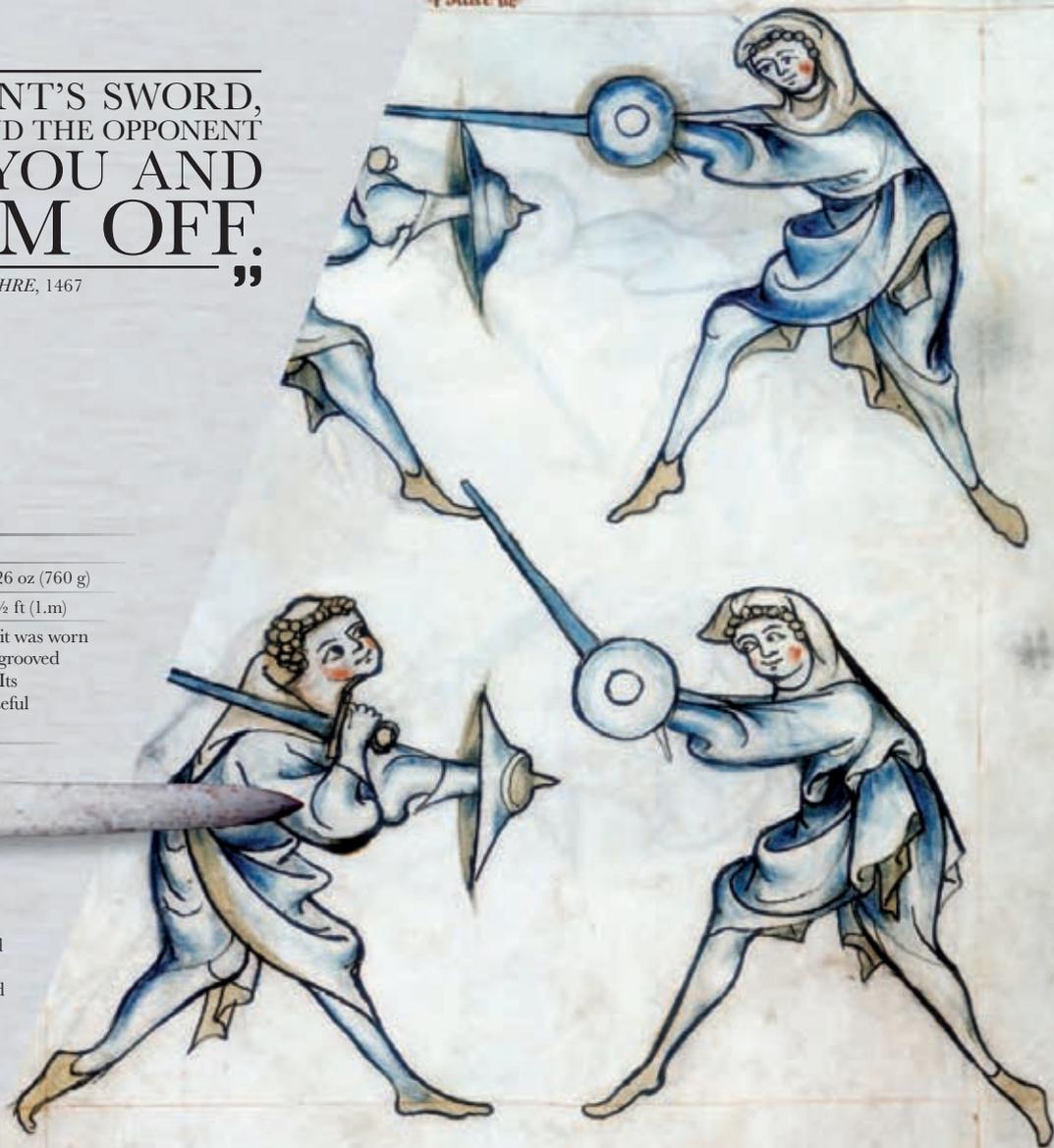
DATE c. 1500 **WEIGHT** c. 26 oz (760 g)

ORIGIN Britain **LENGTH** c. 3½ ft (1.m)

This classic arming sword—so called because it was worn by a man-at-arms—features a shallow, double-grooved fuller in the forte and forward-curving quillons. Its double-edged blade and sharp point made it a useful weapon for both cutting and thrusting.

DELIVERING A BLOW

This illustration from the *Tower Fechtbuch*, an early 14th-century manuscript by an unknown author and illustrator, shows two men fencing with a sword and buckler shield. Each page of the fight book is divided into two scenes that depict different methods of attack. Here, the man on the right attacks, while maintaining his guard with the shield.



AZTEC BLADES

Warfare in the Aztec Empire, which covered much of what is now Mexico, was driven by the need for a regular supply of prisoners for human sacrifice. Although the Aztecs had bows, slings, and throwing spears, they preferred to use close-quarters cutting weapons to disable an enemy, often by a blow to the legs. For their blades, the Aztecs made extensive use of obsidian (a volcanic glass) and flint, both of which could be honed to razorlike sharpness, although the blades could be easily damaged. Ultimately, the Aztecs' Stone-Age weaponry proved no match for the steel and gunpowder of the Spanish invaders who conquered the region in the 16th century.



Hooked end of blade

FLINT KNIVES

DATE c. 1500

ORIGIN Aztec Empire

LENGTH 12 in (30 cm)

Practical and easy to make by flaking (*pp. 8–9*), flint knives like these two examples had many purposes in Aztec society. However, they were most frequently used by priests for carrying out human sacrifice, in preference to obsidian knives, because obsidian, although sharper than flint, is extremely brittle.

OBSIDIAN KNIFE

DATE c. 1500

ORIGIN Aztec Empire

LENGTH 12 in (30 cm)

The Aztecs referred to human sacrifice as “the flowered death by the obsidian knife,” since it was considered an honor to die a sacrificial death. Obsidian provided a razor-sharp blade that Aztec priests used to cut out the hearts of victims. After the heart had been ritually burned, the corpse was dismembered.



Serrated edge



DECORATED FLINT KNIFE

DATE c. 1500

ORIGIN Aztec Empire

LENGTH 12 in (30 cm)

This decorated flint knife was found in the Great Temple, which stood in the center of the Aztec capital, Tenochtitlan. More than 20,000 victims were sacrificed at the dedication of the temple in 1487. Knives were sometimes decorated to resemble the face of the god to whom sacrifice was offered.

Eye made of shell and obsidian or hematite

Teeth shaped from shell



Head and shaft are
made of wood

Obsidian tooth set in
groove along edge of club

THROWING SPEAR

DATE c. 1500

ORIGIN Aztec Empire

The Aztecs' stone-edged spears were often launched by a throwing stick, or *atlatl*. This made them powerful weapons capable of causing severe injury—even to a fully armored Spanish soldier.



FULL VIEW

Stone flake



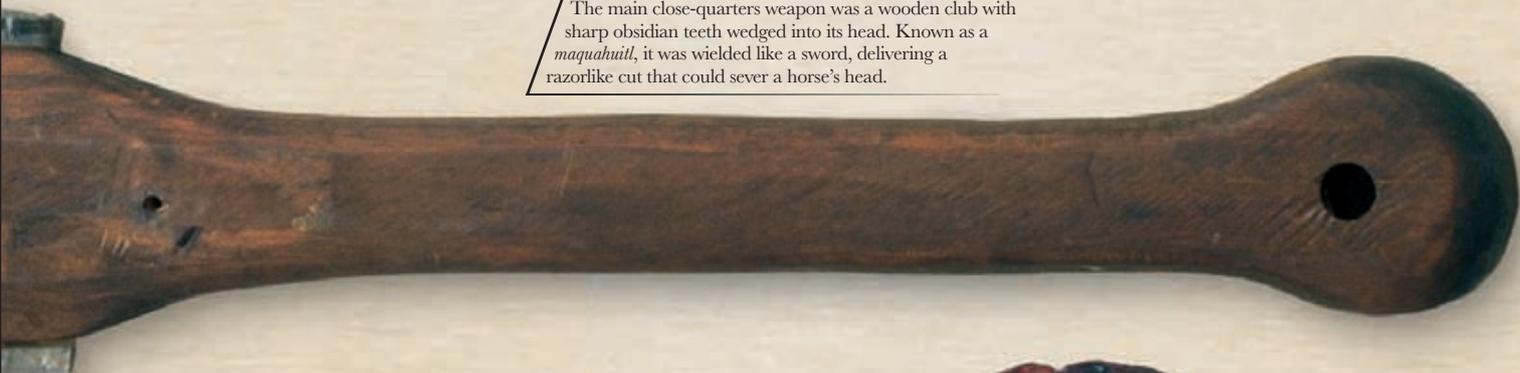
MAQUAHUITL (CLUB)

DATE c. 1500

ORIGIN Aztec Empire

LENGTH 30 in (75 cm)

The main close-quarters weapon was a wooden club with sharp obsidian teeth wedged into its head. Known as a *maquahuitl*, it was wielded like a sword, delivering a razorlike cut that could sever a horse's head.



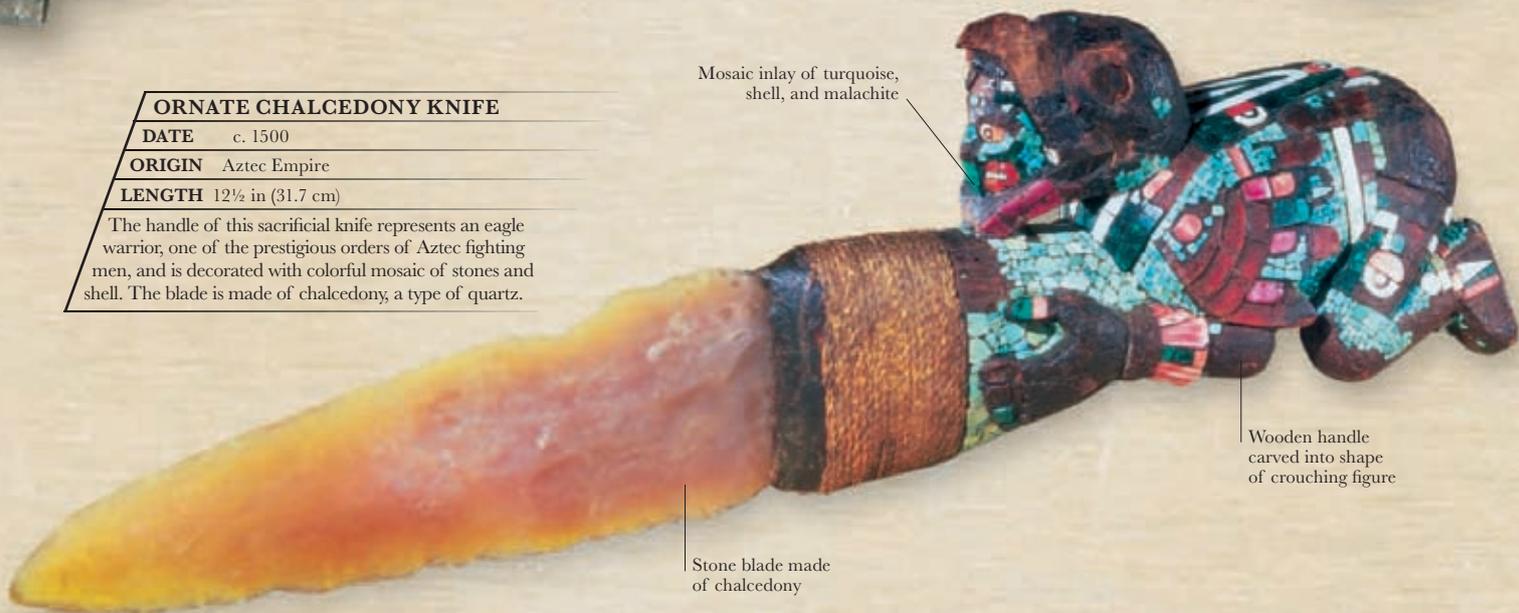
ORNATE CHALCEDONY KNIFE

DATE c. 1500

ORIGIN Aztec Empire

LENGTH 12½ in (31.7 cm)

The handle of this sacrificial knife represents an eagle warrior, one of the prestigious orders of Aztec fighting men, and is decorated with colorful mosaic of stones and shell. The blade is made of chalcedony, a type of quartz.



Mosaic inlay of turquoise, shell, and malachite

Wooden handle carved into shape of crouching figure

Stone blade made of chalcedony

JAPANESE AND CHINESE BLADES

The swords used by Japanese samurai warriors were among the finest cutting weapons ever made. Japanese swordsmiths used a complex process of smelting, forging, and hammering to create curved blades that were immensely hard, but not brittle. The steel of the sharp cutting edge was specially treated by a process known as quenching, in which the swordsmith wrapped the blade with clay but left the cutting edge exposed. The blade was then heated and dipped in a water bath; the rapid cooling ensured full hardness to the cutting edge. The relatively softer, flat *mune*, or back of the blade, was used to block blows, since the samurai carried no shield. Chinese swords, which were sometimes straight rather than curved, had little of the almost mystical prestige of their Japanese equivalents.



Brown silk binding



Leather-wrapped, two-handed hilt



Gilt iron decoration

CHINESE SWORD IN SCABBARD

DATE	c. 1570	WEIGHT	3 lb (1.30 kg)
ORIGIN	China	LENGTH	35½ in (90.3 cm)

This straight Chinese sword, decorated with Buddhist emblems, was made for presentation to a Tibetan monastery, hence its elaborate details. The scabbard is made of wood, but covered with gilt iron decoration.



Habaki (blade collar)

KATANA

DATE 1501 **WEIGHT** 23 oz (660 g)

ORIGIN Japan **LENGTH** 36¾ in (93.6 cm)

The samurai's *katana*, or long sword, was worn with the cutting edge uppermost, so that it could deliver a sweeping cut in a single movement. This *katana* is signed by swordsmith Kunitoshi.

Mune

ANTI-CAVALRY SWORD

DATE c. 16th century **WEIGHT** c. 3½ lb (1.5 kg)

ORIGIN China **LENGTH** c. 5 ft (1.5 m)

From the 8th century CE onward, the Chinese developed several varieties of the anti-cavalry sword. These consisted of a long, single-edged blade—generally around 4 ft (1.2 m) long—attached to a two-handed grip. These weapons were intended for use against the legs of enemy horses, as well as against the rider himself.

Long, slightly curved cutting blade



Monster motif decoration on hand guard





Tsuba
(hand guard)



Black lacquered
rattan

Menuki (hilt
decoration)

Rayskin
covering
on hilt

Sageo (cord) for fastening
scabbard to belt

AIKUCHI

DATE	14th century	WEIGHT	10 oz (280 g)
ORIGIN	Japan	LENGTH	c. 21½ in (55 cm)

The *aikuchi* was one of the many types of Japanese dagger, distinguished by having no hand guard (*tsuba*). It was often carried by aging samurai in semi-retirement. This *aikuchi*, shown with its scabbard, is a 19th-century reproduction of a medieval weapon.

SENGOKU KATANA

DATE 15th century / **WEIGHT** c. 21 oz (600 g)

ORIGIN Japan / **LENGTH** 42 in (106.5 cm)

Attributed to the Shizu group of swordsmiths, this *katana* blade dates from the Sengoku period. The sword could be used with one hand, although a two-handed grip was needed for full power.

Cutting edge
is uppermost

Mune (flat back of
blade for blocking
enemy blows)

High *shinogi*
(ridge line)

Kissaki
(point)

SAYA (SCABBARD)

Brown lacquer
coating

WAKAZASHI

DATE 16th century / **WEIGHT** 15 oz (420 g)

ORIGIN Japan / **LENGTH** c. 26½ in (67 cm)

This 16th century-style *wakazashi* was a samurai's shorter sword and was normally carried paired with the *katana*. A useful secondary weapon, it was worn indoors when the *katana* was set aside at the entrance.



Menuki (hilt ornaments)

TACHI IN SCABBARD

DATE 18th century / **WEIGHT** 4 oz (130 g)

ORIGIN Japan / **LENGTH** 29¼ in (74.5 cm)

The *tachi* sword was worn slung from a belt, to which it was attached by the *sageo* (cord) on its scabbard. In this late example of an earlier style, the *sageo* is made of gilded leather, traded from the Dutch. The *tachi* was, for most of Japanese history, the proper sword to be worn with armor.



Kashira
(pommel)

Wooden hilt covered with rayskin or sharkskin, then wrapped in braid

Sageo (cord) of gilded Dutch leather



SCABBARD



Hamon (temper pattern)
on blade edge

THE ADVANTAGE OF THE SAMURAI SWORD
WAS THAT IT COULD BE DRAWN QUICKLY AND
DELIVER A KILLING BLOW
AS IT WAS DRAWN.



Lacquered
wooden
scabbard

Kiji (scabbard end)

SHAOLIN MONK

The Shaolin monks' spiritual center lies at the Shaolin temple at Song Shan, Henan Province, China. Legend has it that the fighting skills of the Shaolin monks stretch back to the 6th century CE. The Indian Buddhist monk Bodhidharma, who became temple master in 512 CE, is believed to have taught the monks techniques to improve their skills in self-defense, much needed in bandit-ridden China. Legend or not, what is

certain is that, by the late medieval period, the Shaolin monks were accomplished practitioners of martial arts, skilled with a variety of bladed weapons as well as in unarmed combat. A collection of 18 original Shaolin weapons is used to this day by the Shaolin monks, including the *guan dao* shown here, the *san jian liang ren dao* (three-pointed halberd), and the crescent-shaped *zi-wou* knife.



THE SHAOLIN BROADSWORD IS KNOWN
AS “THE MARSHALL”
AND THE STRAIGHT SWORD IS
“THE GENTLEMAN.”

GUAN DAO

DATE 10th century / **WEIGHT** c. 11 lb (5 kg)

ORIGIN China / **LENGTH** c. 6 ft (1.8 m)

The *guan dao*, also known as a *yan yue dao* (“reclining Moon blade”), is a form of halberd. Some medieval versions weighed more than 44 lb (20 kg), although most were purely training weapons. The example here is a replica.

KUNG FU FIGHTING

A modern warrior monk of the Shaolin Temple displays his *kung fu* skills on the Song Shan Mountain near the temple. He wields the *guan dao*, which requires tremendous strength in the arms and shoulders, as well as a good sense of balance.



BI SHOU

DATE	c. 1400	WEIGHT	c. 7 oz (200 g) each
ORIGIN	China	LENGTH	c. 7 in (17.8 cm)

Known as *bi shou*, these daggers were often carried in pairs. They could easily be hidden inside a pair of boots or a jacket and were either thrown or used for stabbing. The tassel stabilized the dagger in flight, improving its accuracy, but slowed it down, limiting its penetration. These examples are modern replicas.



FULL VIEW

**CHINESE DAO**

DATE	1572–1620	WEIGHT	3 lb (1.35 kg)
ORIGIN	China	LENGTH	3¼ ft (1 m)

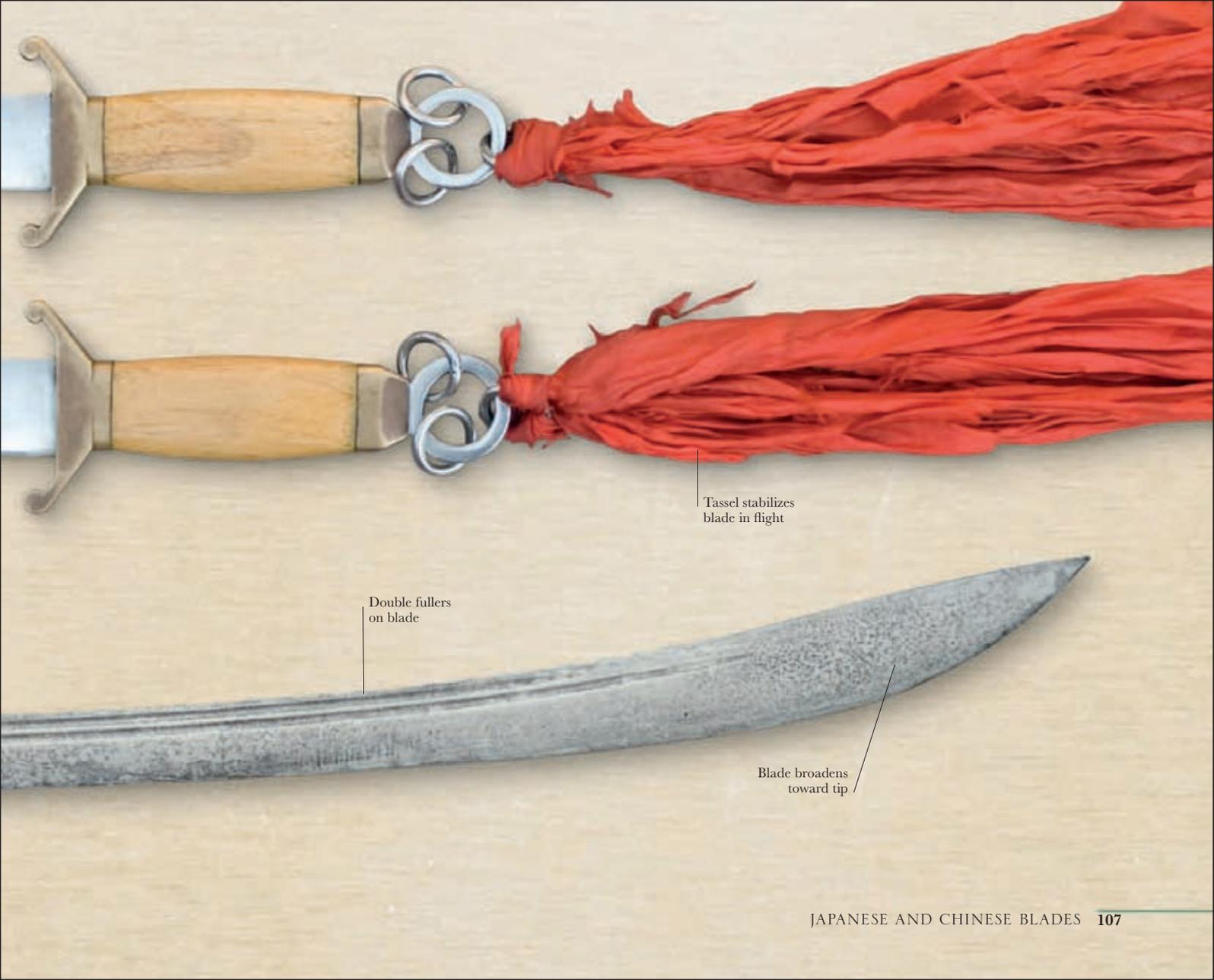
This single-edged, curved *dao* is similar to the Indian *talwar* and *shamshir* (pp. 180–81) and the European saber (pp. 130–31). The blade, with its long, deep curve, is known in Chinese as *liuyedao* (willow-leaf knife). The fullers on the back of the sword strengthened and lightened the blade, the latter effect essential on such a large weapon.



Ring-shaped pommel

Curved quillon on hand guard

Long handle enables one- or two-handed grip



Tassel stabilizes blade in flight

Double fullers on blade

Blade broadens toward tip

ASIAN STAFF WEAPONS

Medieval Asian armies deployed a wide range of staff weapons, including maces (clubs with metal heads), long-handled battle-axes, and weapons with blades or pointed heads. Some of these were little more than developments of agricultural implements or simple clubs; nevertheless, they were highly effective in face-to-face combat. Although gradually rendered obsolete by gunpowder, many such staff weapons remained in use in some Asian armies into the 18th and even 19th centuries.

A WARRIOR WIELDING A
SOLID IRON MACE
REQUIRED GREAT UPPER-BODY STRENGTH
AND A WIDE-LEGGED
STANCE FOR BALANCE.



FULL VIEW



Iron shaft reeded with raised ribs



Hole for peg
to fix tang to shaft



FULL VIEW

MOGUL MACE

DATE	18th century	WEIGHT	3¼ lb (1.5 kg)
ORIGIN	India	LENGTH	30½ in (77.5 cm)

This 16th-century-style mace is in essence little more than a curved solid iron bar, but it could undoubtedly deliver a powerful blow if wielded energetically. Maces of this kind were used by Mogul soldiers during the conquest of India in the 1500s. They are recognizable in many miniature paintings that depict the Moguls at war.

Curved head

Chiseled decorative knob

Curved steel blade

NAGINATA

DATE	c. 1600–1700	WEIGHT	Blade: 22 oz (620 g)
ORIGIN	Japan	LENGTH	3¼ ft (1.05 m)

The *naginata*, a Japanese cousin of the European glaive (pp. 88–89), consists of a long, curved blade attached to a wooden shaft. It was a standard weapon of foot soldiers in medieval Japan, but was especially associated with fighting monks, the *sohei*. They are described by Japanese chroniclers as entering battle “whirling their *naginata* like waterwheels.”

SAINTIE

DATE 18th century / **WEIGHT** 34 oz (970 g)

ORIGIN India / **LENGTH** 35½ in (89.8 cm)

This 16th-century-style spear is a parrying weapon—its function is both defensive and offensive. The shaft could be used like a staff to deflect hostile blows, while the spearpoint was thickened to allow a thrust to penetrate armor and clothing.

Decorative iron shaft

Central grip

Protective knucklebow

Elaborately decorated iron mace head

Ornate cross-guard

Grip formed as part of ax shaft

Single-strand knuckle guard

BATTLE-AX WITH CURVED BLADE

DATE 17th century / **WEIGHT** 2¼ lb (1 kg)

ORIGIN India / **LENGTH** 17½ in (44 cm)

In Asia, as in medieval Europe, the battle-ax became a weapon of choice for aristocratic cavalymen to use when fighting dismounted. No helmet or armor could offer sure protection against its powerful blow. The spikes radiating around the axhead could do damage as well as the blade.



Steel spearhead

FULL VIEW

Wooden shaft covered with polished rayskin

Small iron grip

Leather wrist loop



Metal shaft

Spikes around axhead

Ornate curved blade



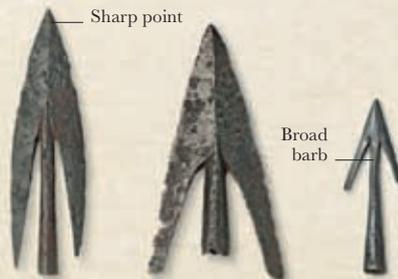
DECORATED IRON MACE

DATE	14th century	WEIGHT	2½ lb (1.17 kg)
ORIGIN	China/Mongolia	LENGTH	15½ in (40 cm)

This splendid mace dates from the period of Chinese history in which the rule of the Mongol invaders was overthrown and the native Ming dynasty took power. The elaborate decoration on the mace head, shaft, and handle suggests that it was made for a warrior of high status, possibly a member of the Mongol elite fighting on horseback.

ARROWS AND BOLTS

During the Middle Ages, the design of arrowheads was refined, with improved penetration and injury capabilities in warfare and hunting. Penetration through armor came from the bodkin point, a small arrowhead with a square cross-section, while barbed arrows were designed to deliver severe internal injuries. From the 12th century, the crossbow and the longbow became popular in Europe. The crossbow, which was invented in China, fired short, powerful bolts. It was highly accurate and effective against armored knights and in siege warfare. But it had a slower rate of fire than the longbow, an improved version of the ordinary bow.



BARBED ARROWHEADS

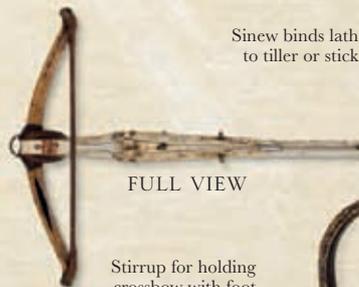
DATE	c. 1500	WEIGHT	Left: 1 oz (28.3 g)
ORIGIN	Europe	LENGTH	Left: 1 3/4 in (4.5 cm)

Broad-barbed iron arrowheads—which tipped longbow arrows—could cause deep, wide wounds, and were extremely difficult to extract. Not ideal for penetrating armor, they were used for hunting more than for warfare.

HUNTING CROSSBOW

DATE	c. 1460	WEIGHT	9 3/4 lb (4.4 kg)
ORIGIN	Europe	LENGTH	28 1/4 in (72 cm)

The crossbow was an excellent weapon for hunting because the hunter could carry the bow predrawn and loaded with a bolt, ready to shoot. It was also powerful enough to penetrate deep into an animal's body.



Stirrup for holding crossbow with foot while spanning (drawing the string)

Composite lath, usually made of horn, sinew, and wood

Sinew binds lath to tiller or stick

Bowstring of twisted cord



CROSSBOW BOLTS

DATE c. 1500

ORIGIN Germany

LENGTH Top bolt: 14½ in (37 cm)

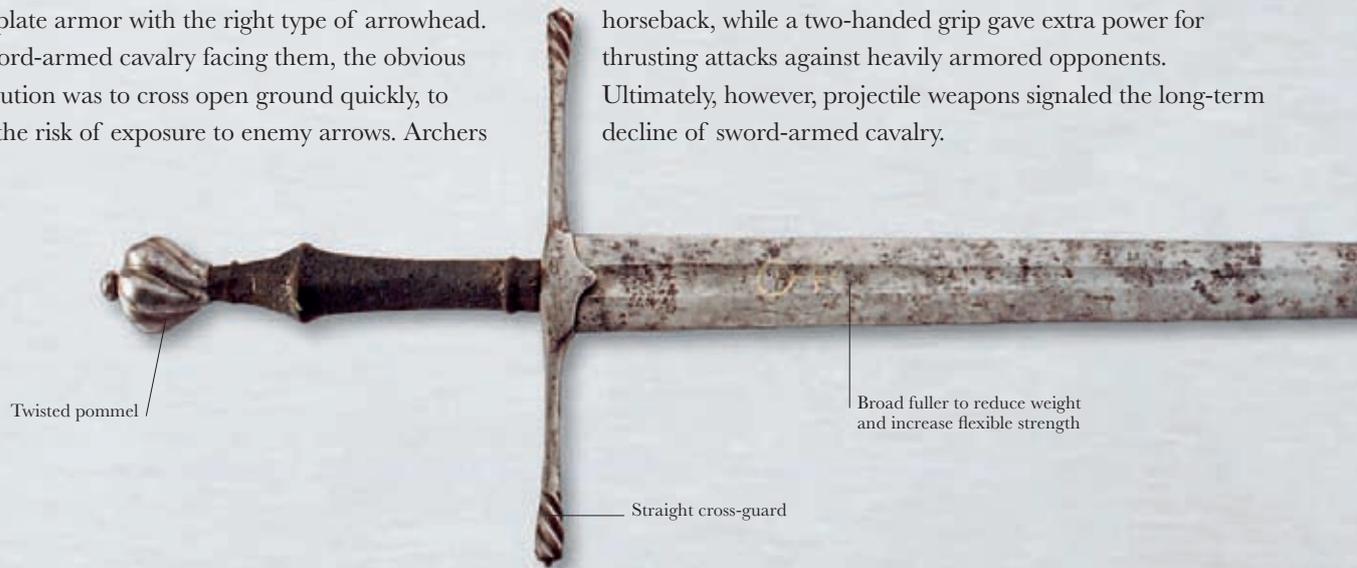
Bolts, or quarrels, which were shorter and thicker than longbow arrows, had different tips depending on the effect required. Broadhead bolts, with wide barbed heads, were used primarily for hunting. Against armor, a crossbowman used bolts with chisel-shaped bodkin heads. The crossbowman used the tip of the bolt as a sight when aiming, sighting the tip just below the target.



BLADE VS. BOW

With improvements in bows and arrows, swordsmen had to develop new tactics to counter the growing reach of archers using longbows and crossbows. For example, during the Hundred Years' War between England and France (1337–1453), English or Welsh longbow archers could fire 12 arrows a minute at ranges of up to 650 ft (200 m). They could even penetrate plate armor with the right type of arrowhead. For the sword-armed cavalry facing them, the obvious tactical solution was to cross open ground quickly, to minimize the risk of exposure to enemy arrows. Archers

wore little armor, since they were not expected to engage in close-quarters combat. So if a knight could get close to an archer, his sword skills could be very effective. The long bastard sword shown below would be ideal against a mixed force of archers, infantry, and knights. Grippled one-handed, it could be used against lightly armored archers from horseback, while a two-handed grip gave extra power for thrusting attacks against heavily armored opponents. Ultimately, however, projectile weapons signaled the long-term decline of sword-armed cavalry.



Twisted pommel

Broad fuller to reduce weight and increase flexible strength

Straight cross-guard

“
ENGLISH ARCHERS
THREW AWAY THEIR BOWS, THEN TOOK
UP THEIR SWORDS AND
KILLED THESE FRENCHMEN.

MEDIEVAL FRENCH CHRONICLER JEHAN DE WAVRIN
DESCRIBING THE BATTLE OF AGINCOURT, 1415 ”

BASTARD SWORD

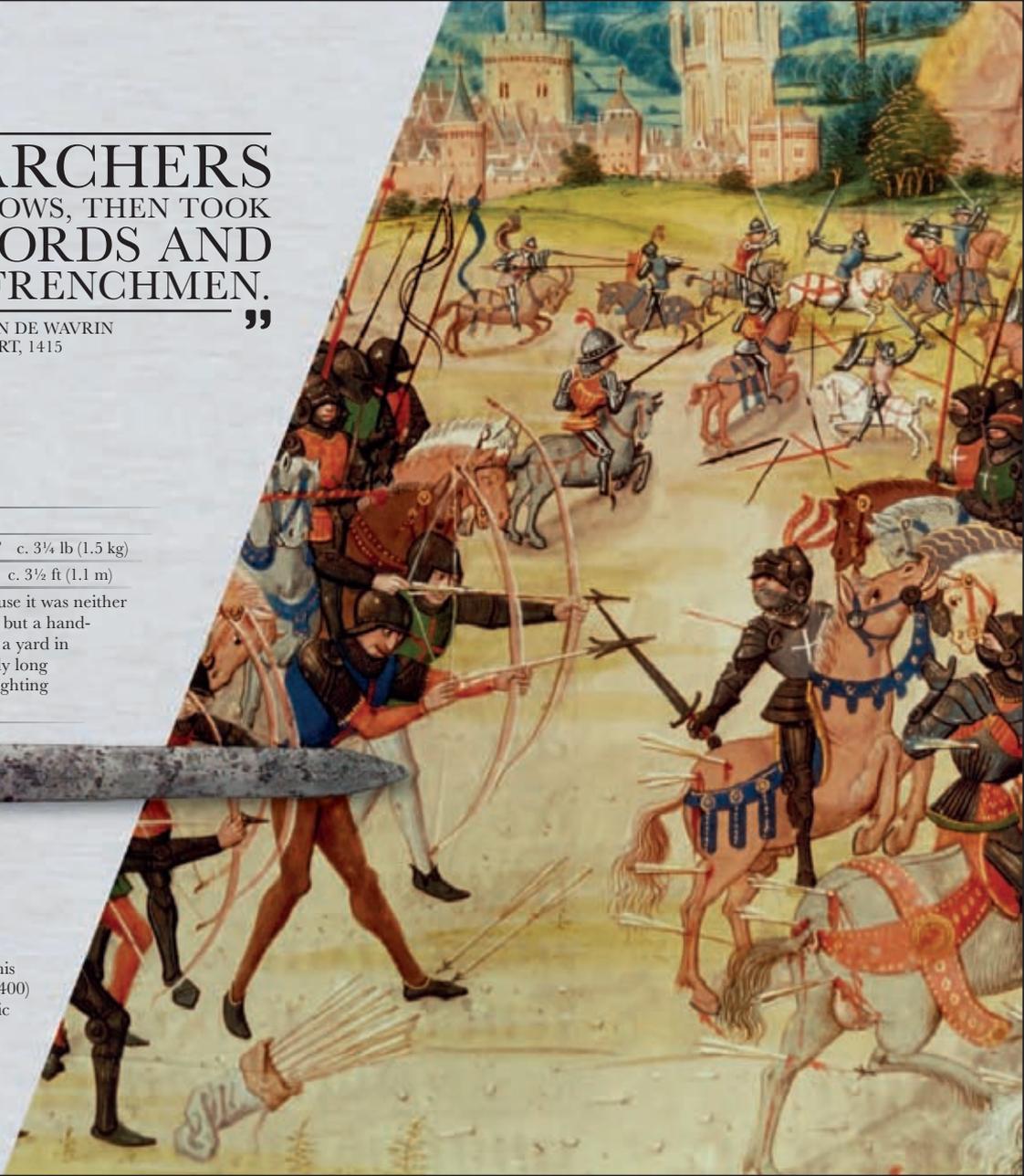
DATE c. 16th century / **WEIGHT** c. 3¼ lb (1.5 kg)

ORIGIN Unknown / **LENGTH** c. 3½ ft (1.1 m)

The bastard sword was so named because it was neither a one-handed nor a two-handed sword, but a hand-and-a-half sword. Measuring more than a yard in length, the bastard sword had an extremely long reach—important for a mounted warrior fighting against both foot soldiers and other cavalry.

ARCHERS IN ACTION

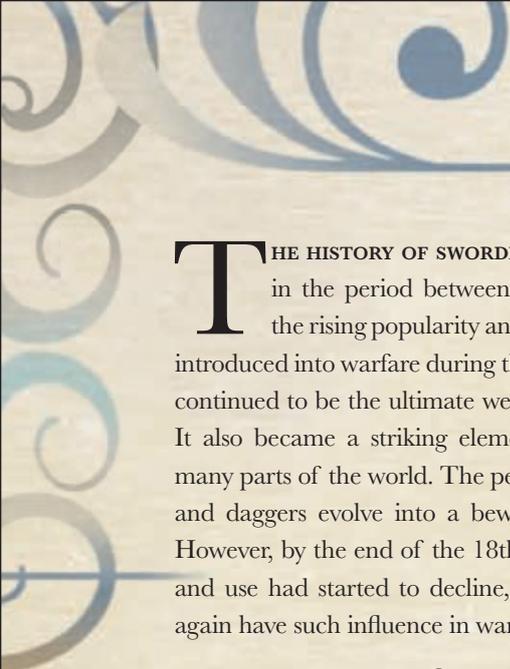
The English victory at Poitiers, France, in 1356 was largely due to the tactics of the archers, who devastated the French cavalry charge. In this illustration from *Froissart's Chronicles* (c. 1370–1400) we see the French cavalry, armed with the classic pointed French swords of the time, fleeing the English arrows.







THE AGE OF
SWORDSMANSHIP
1500—1775



THE HISTORY OF SWORDMAKING reached its peak in the period between 1500 and 1775. Despite the rising popularity and importance of firearms, introduced into warfare during the 14th century, the sword continued to be the ultimate weapon of the military elite. It also became a striking element of civilian fashion in many parts of the world. The period also saw both swords and daggers evolve into a bewildering variety of types. However, by the end of the 18th century, their popularity and use had started to decline, and swords would never again have such influence in warfare or culture.



The diversification in sword types and design from the 16th to the 18th centuries was particularly pronounced in Europe. The long, narrow, and sharp-pointed rapier became one of the defining swords of this period, with its elaborate hilt designs and straight, thrusting blades. Rapiers were worn by both officers and gentlemen, though the blades of rapiers worn by the latter tended to be more slender and lighter than the military equivalents. During the 17th century, the smallsword emerged as the fashion accessory of choice. It was a lighter form of the rapier, and was characterized by a plainer hilt with a U-shaped knuckle

guard and simple shell guard to protect the wielder's hand. The smallsword was a perfect thrusting sword, and soon became the preferred weapon for duels. However, rapiers and smallswords were not the only two blades on offer during this period. In Eastern Europe, proximity to the Islamic Middle East led to the introduction of the curved swords called sabers, which soon became popular. During the 17th and 18th centuries, sabers also found their way into the cavalry weaponry of Western armies. Originally produced for hunting, the robust hanger swords—so called because of the way they were hung from the belt—were also becoming part of standard military weaponry in several armies during the 18th century. Swords were also manufactured specifically for the act of execution. These featured a two-handed grip and a broad, long blade with a rounded or even a square tip—there was no need for thrusting when beheading a prisoner.



The diversity of swords during this period is also reflected in a complicated range of hilt designs. Designs ranged from a hanger sword with simple S-shaped quillons, to swords with basket hilts that encased the user's hand in a protective cage of metalwork. The designs of rapiers

were particularly flamboyant, with various shells, cups, and plates acting as a hand guard. The quillons were sometimes twisted to form multistrand knuckle guards.



Experimentation and diversity were not confined to Europe. In Africa, for example, bladed weaponry ranged from high-quality swords inspired by European designs to a mass of tribal ceremonial and combat weapons with no equivalents elsewhere. Many knives had broad, organic shapes, or featured multiple points. There are more than 100 different types of African throwing knife alone. South and Southeast Asian blades also show distinctive national or regional forms, such as the undulating Malayan *kris* dagger. In India and the Middle East, the highly curved *shamshir*, a heavy slashing sword, became a popular weapon in the 16th and 17th centuries. The *shamshir* and other Islamic swords were often decorated with gold or silver inlay-work, scrollwork, and religious text. Japan continued its fine tradition of samurai sword production, albeit under the restrictive rule of the Tokugawa Shogunate (1603–1868), also called the Edo period, which limited sword ownership. Across the world, swordsmiths took great pride in their

craft and, on the wave of rising affluence brought about by international and colonial trade, produced some of the finest blades in history.



During this period, a critical development had started to take place. The 1642 memoirs of French army marshal Jacques de Puysegur refer to soldiers using bayonets. Bayonets were blades of varying lengths that could be attached to the muzzle of a gun, effectively converting the gun into a polearm. Early bayonets were of a plug variety—they fit straight into the gun’s muzzle, which prevented the gun from being fired. Soon, socket bayonets followed—these had a ring to slot them around the muzzle, allowing the gun to be fired even with the bayonet attached. By the end of the 18th century, when the use of firearms and artillery had become widespread, the foot soldier could wield a gun and a blade in a single weapon.

THE AGE OF SWORDSMANSHIP

TWO-HANDED SWORDS

During the Middle Ages most infantry swords were relatively light and easy to wield, but by the late 15th century a distinctive group of larger and heavier weapons grew in popularity, particularly in Germany. These two-handed swords were known as *doppelhänder* (double-hander) or *beidenhände* (both-hander) and were specialized weapons. The Landsknecht mercenaries (*pp.* 166–67) who used them were called *doppelsöldner* and received double pay, but they earned it. They were expected to hack their way into enemy pike units (*pp.* 176–77). The double-handed swords were also used for ceremonial duties and executions.



SCOTTISH CLAYMORE

DATE	c. 1620	WEIGHT	5½ lb (2.5 kg)
ORIGIN	Scotland	LENGTH	c. 5 ft (1.5 m)

This two-handed sword is the true Scottish claymore, the great double-edged broadsword used by Scottish Highlanders from the 15th to the early 17th century. The word “claymore” comes from the Gaelic *claidheamh-mòr*, meaning “great sword.”

HIGHLAND SWORD

DATE	c. 1550	WEIGHT	5¼ lb (2.61 kg)
ORIGIN	Scotland	LENGTH	5 ft (1.5 m)

The Scots developed their own tradition of “hand-and-a-half” weapons, derived from earlier medieval Scottish and Irish longwords. This Highland sword (*Claidheamh dà làimh*) has a blade just over 3 ft (1 m) long and was shorter and lighter than German *doppelhänder* weapons. The forward-sloping quillons ending in quatrefoils were a common feature.



Narrow double-edged blade

Quatrefoil finial on quillon (damaged)

Grip bound in leather and pierced with metal studs

Forward-curving quillon terminates in a curl

Flame shape of blade is purely decorative

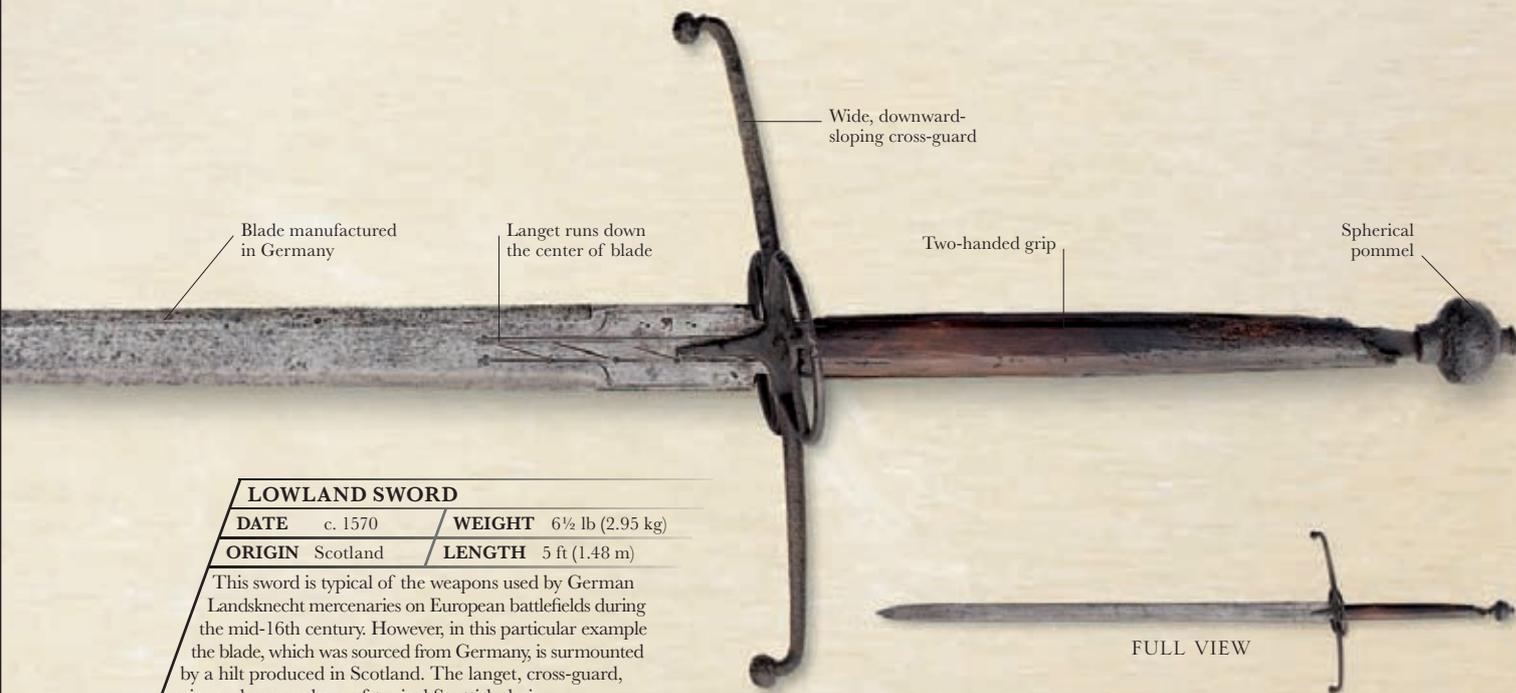
PARADE SWORD

DATE	c. 1580	WEIGHT	7¼ lb (3.3 kg)
ORIGIN	Germany	LENGTH	5¼ ft (1.6 m)

In 16th- and early 17th-century Germany, ornate two-handed swords, such as this example, were used on ceremonial occasions. These *paratschwerter* (parade swords, but also called bearing swords) were longer and heavier than battlefield weapons, and often so ornate that they were of little use as offensive weapons. The flame shape of the blade (*flammenschwert*) was impressive, but did little to improve its cutting capabilities.



FOR EXECUTION BY SWORD THE VICTIM KNELT IN FRONT OF THE SWORDSMAN, WHO DELIVERED A TWO-HANDED STRIKE TO THE NECK. REMOVING THE HEAD WITH A SINGLE BLOW WAS THE MARK OF AN EXPERT EXECUTIONER.



Blade manufactured in Germany

Langet runs down the center of blade

Wide, downward-sloping cross-guard

Two-handed grip

Spherical pommel

LOWLAND SWORD

DATE c. 1570 / **WEIGHT** 6½ lb (2.95 kg)

ORIGIN Scotland / **LENGTH** 5 ft (1.48 m)

This sword is typical of the weapons used by German Landsknecht mercenaries on European battlefields during the mid-16th century. However, in this particular example the blade, which was sourced from Germany, is surmounted by a hilt produced in Scotland. The langet, cross-guard, grip, and pommel are of typical Scottish design.

FULL VIEW

EXECUTION SWORD

DATE c. 1674 **WEIGHT** 4¼ lb (2.15 kg)

ORIGIN Germany **LENGTH** 33 in (83 cm)

This heavily ornate example of a municipal executioner's sword has a shorter hilt than earlier *doppelhänder* swords, and a blunt end. It was used only for executions, as depicted in the gruesome etchings on its blade. When not in use, the sword hung in a civic building as a deterrent to potential wrongdoers.

Details and date of manufacture

An execution scene on blade

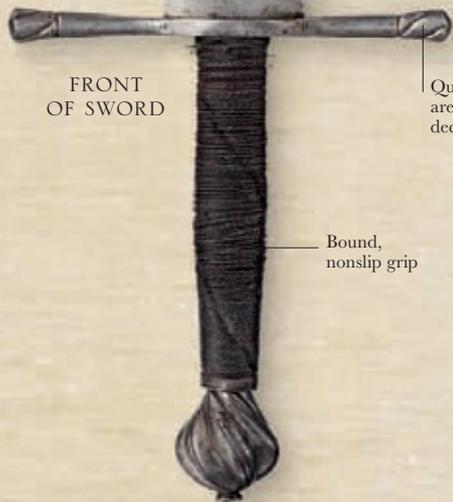
Impalement by a hook

Quillons are largely decorative

Bound, nonslip grip

Impalement by a spike

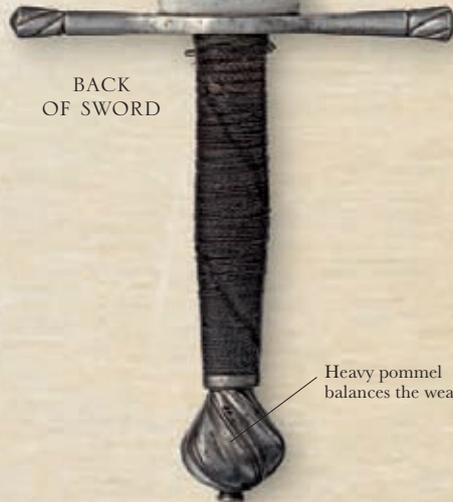
Beheading by executioner's sword



FRONT OF SWORD



FULL VIEW



BACK OF SWORD

Heavy pommel balances the weapon

EUROPEAN INFANTRY AND CAVALRY SWORDS

The military revolution that followed the Renaissance meant that firepower was becoming increasingly important, but *arme blanche* (cold steel) still remained a battle-winning weapon, particularly for cavalry (horse-mounted soldiers). From the 16th century onward, most infantry (foot soldier) swords tended to be used as thrusting weapons. But the cavalry still needed to slash downward at infantry, so they favored larger, double-edged swords that could be used equally well against mounted and dismounted opponents. However, standardized military sword patterns now emphasized style as much as practicality. They were more elegant but probably no less deadly.

Quillon affords extra protection to swordsman's hand

Simple brass-plated steel ring guard

FULL VIEW

CAVALRY SWORD

DATE	c. 1630	WEIGHT	3 lb (1.33 kg)
ORIGIN	Sweden	LENGTH	3½ ft (1.08 m)

Cavalrymen during the 16th and 17th centuries relied on variants of the broadsword, such as this finely engraved Swedish weapon. A brass-plated ring guard protected the swordsman's hand, while the simply shaped pommel is reminiscent of late medieval weapons. The straight blade could be used with equal efficiency as a cutting or thrusting weapon.

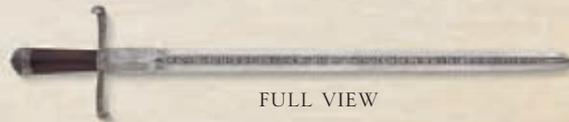
Intricate engraving suggests weapon belonged to an officer

INFANTRY SWORD

DATE	c. 1500	WEIGHT	32 oz (910 g)
ORIGIN	Switzerland	LENGTH	35¼ in (90 cm)

Compared to the basket-hilted sword, this weapon offered little protection to the swordsman. However, its grip allowed it to be wielded by both hands, a feature more useful to a foot soldier than a cavalry officer.

Curves on quillon could trap an opponent's blade



FULL VIEW

Simple wooden grip allows single- or double-handed hold

Religious icons often decorated the blades of Renaissance weapons



FULL VIEW

BASKET-HILTED SWORD

DATE	Hilt: c. 1540	WEIGHT	3 lb (1.36 kg)
ORIGIN	England	LENGTH	3¼ ft (1.04 m)

This broadsword (a sword with wide, double-edged blade) consists of an early 17th-century German blade, which is attached to an English basket hilt. The basket hilt dates from over a century before the blade was cast.

Three fullers on blade



Silver-encrusted hilt

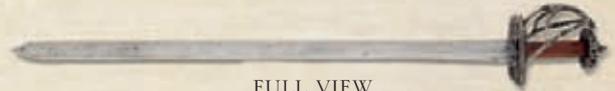
Single fuller imparts greater strength to blade



GERMAN BROADSWORD

DATE c. 1550	WEIGHT 3½ lb (1.59 kg)
ORIGIN Germany	LENGTH 38 in (96 cm)

This proto-basket-hilt sword takes its features from various swords – the term broadsword refers to its blade. The cut-steel guard is basic, but is a major improvement on the Swedish cavalry sword (*p.* 124).



FULL VIEW

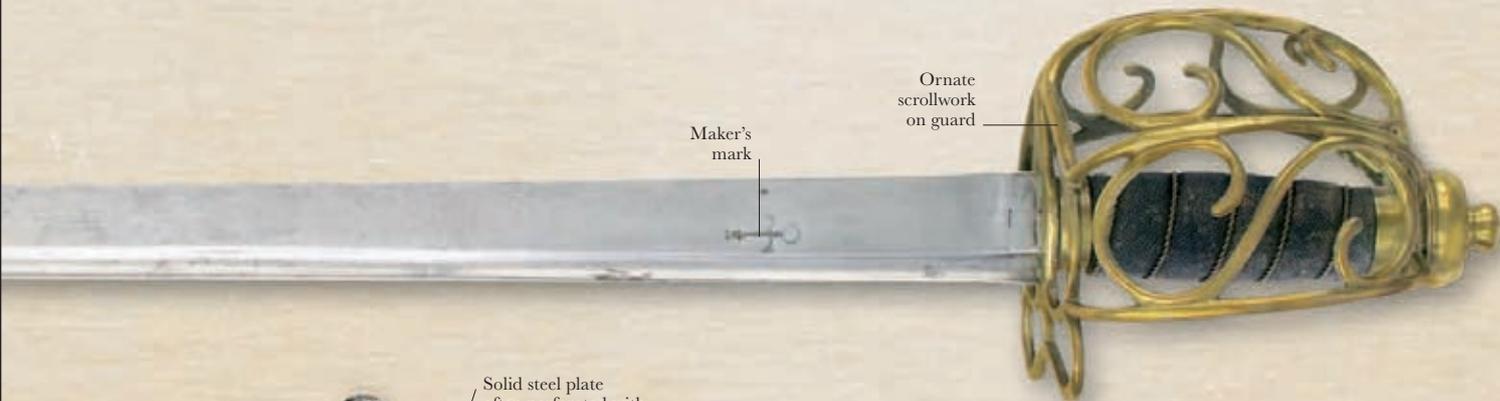
Simple cut-steel shell guard encircles the whole hilt

Double-edged blade



Simple wooden grip

Cut-steel pommel larger than normal to provide weight for balance



Maker's
mark

Ornate
scrollwork
on guard



Solid steel plate
often perforated with
heart-shaped designs



FULL
VIEW

S-shaped
quillon typical
of this era

Blade lacks
fuller

CAVALRY SWORD

DATE	1750	WEIGHT	3 lb (1.36 kg)
ORIGIN	England	LENGTH	3¼ ft (1 m)

By the mid-18th century cavalry swords had developed into two types: light, curved blades for light cavalry, and longer, heavier, straight blades for heavy cavalry. This example is typical of those used by European heavy cavalry for over a century. The single fuller (groove along the back of the blade) indicated that the blade was single-edged.

DÜSACK

DATE	c. 1570	WEIGHT	3½ lb (1.5 kg)
ORIGIN	Germany	LENGTH	3¼ ft (1.02 m)

The *düsack* or *dussak* was primarily a south German and Austrian weapon of war. Its curved blade, based on the design of a saber (a curved-bladed sword, typically used by cavalry) made it a useful cutting weapon, while its enclosed guard offered good protection to the swordsman. Early 17th-century woodcuts suggest that the *düsack* was also used as a dueling weapon in southern Germany.

Pommel decorated with intricate inlaid brass scrollwork



FULL VIEW

SCOTTISH BROADSWORD

DATE	c. 1750	WEIGHT	3 lb (1.36 kg)
ORIGIN	Scotland	LENGTH	36 in (91 cm)

Although basket-hilted swords were used throughout Europe from the mid-16th century, they are most closely associated with the 18th-century Scottish Highlander. Most of these were made in the lowlands, principally in Glasgow and Stirling, although many of the blades were imported from Germany. The characteristically Scottish basket-hilt guard was designed to protect the swordsman's hand.

High-quality silverwork indicates this was possibly an officer's weapon

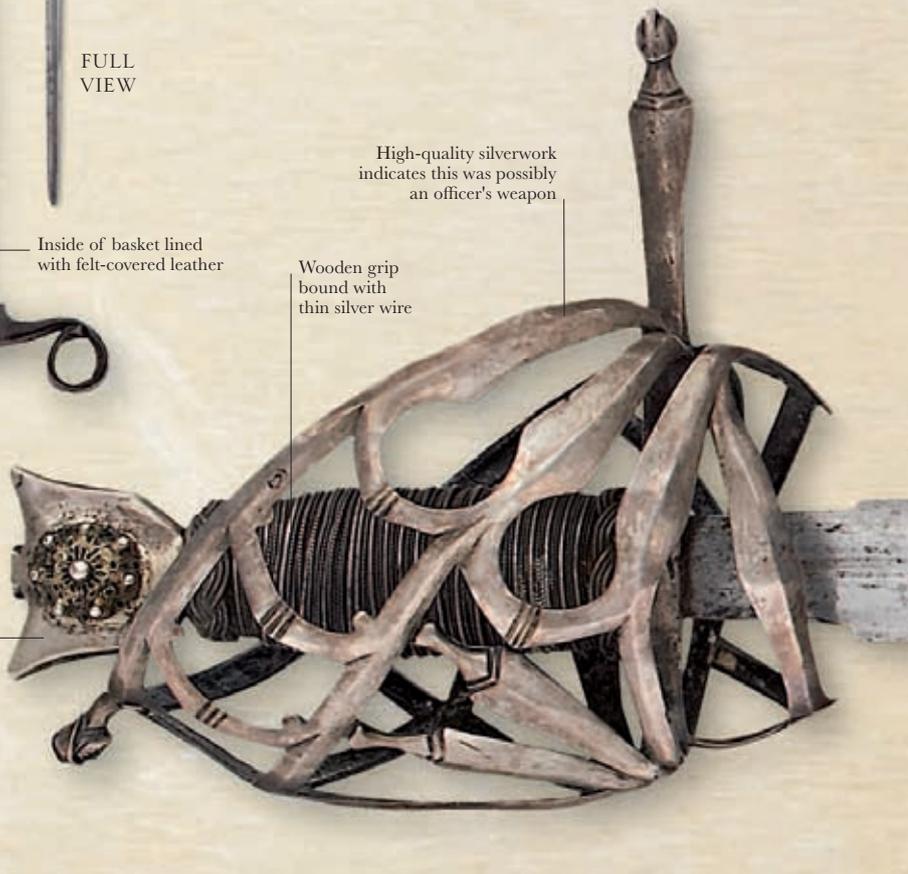
Inside of basket lined with felt-covered leather

Wooden grip bound with thin silver wire

Basket guard provides excellent protection

Wide, double-edged blade

Pommel cast in shape of cat's head



INFANTRY HANGER

DATE	c. 1760–1820	WEIGHT	29 oz (840 g)
ORIGIN	England	LENGTH	32 in (79.7 cm)

While most infantrymen relied on the bayonet for combat, many foot troops were also issued with a hanger, a crude military variant of a short hunting sword. This almost always had a straight or a slightly curved blade. The hanger was more practical in a difficult terrain than conventional longer swords.

FULL VIEW

Grips and guards usually made of brass

Single-edged blade shorter than typical cavalry sword

SCHIAVONA SWORD

DATE	c. 1780	WEIGHT	2¼ lb (1.02 kg)
ORIGIN	Italy	LENGTH	3¼ ft (1.05 m)

This delicate, characteristically Venetian broadsword is known as a *schiaivona*, meaning “Slavonic” in Italian. The term roughly refers to the Dalmatian troops who primarily used this sword while in service of the Venetian Republic. *Schiaivonas* have a distinctive form of basket hilt and often feature a pommel resembling the head of a cat, an allusion to agility and stealth.

FULL VIEW

Simple two-bar guard

Double-edged blade inscribed with the slogan *In Mene* (“in mind”)



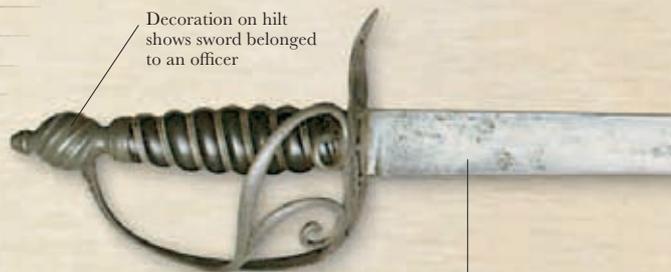
Shape of guard usually described as a "half-basket hilt"

Steel hilt decorated with simple cast scrollwork

CAVALRY SWORD

DATE	c. 1775	WEIGHT	30 oz (850 g)
ORIGIN	England	LENGTH	33 in (83.8 cm)

This sword is typical of the single-edged swords carried by heavy cavalry for much of the 18th century. While cavalymen still used swords to deliver swinging cuts, it was considered more practical for heavy cavalry to thrust at the enemy, that is, use the point of the sword instead of the edge. This weapon was dual purpose, without being particularly well suited for either type of swordplay. After 1780, most British Army swords were designed to set patterns.



Decoration on hilt shows sword belonged to an officer

Style of guard in contemporary rococo design



Three-barred guard

Suspension ring to attach scabbard to belt loop or straps



Double-edged blade
with two fullers to
reduce weight

MORTUARY SWORD

DATE	1640–60	WEIGHT	32 oz (910 g)
ORIGIN	England/Germany	LENGTH	36 in (91 cm)

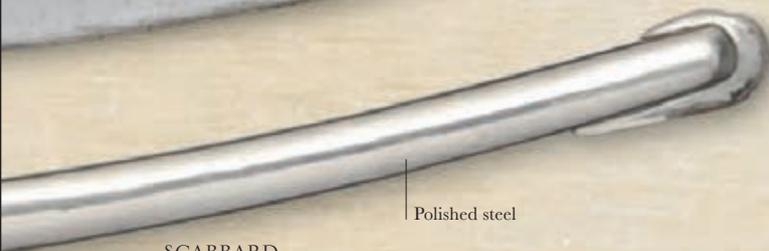
The name of this sword has two possible derivations. It could either be named because of the hilt's resemblance to the human rib cage, or derived from a 19th-century term related to the supposed likeness of portrait heads on the hilt to the executed King Charles I. These swords were widely used by cavalymen during the English Civil War that preceded the execution of the king in 1649. Although the blade was made in Germany, the hilt of this weapon is of a uniquely English design.



FRENCH SABER

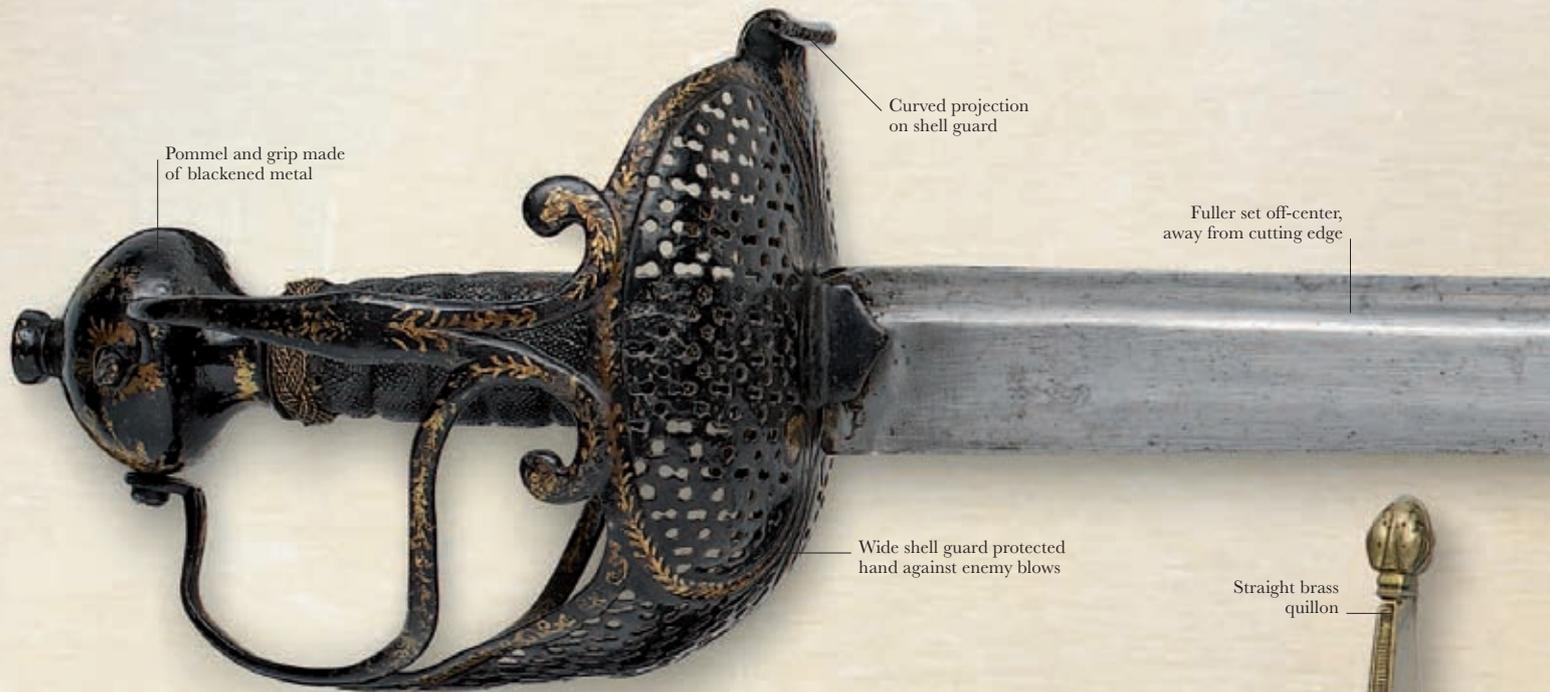
DATE	1802	WEIGHT	c. 2½ lb (1.2 kg)
ORIGIN	France	LENGTH	c. 29 in (73.6 cm)

French light cavalry liked to thrust with the point of the blade as well as deliver swinging cuts. As a result, their sabers had narrower blades than their British counterparts. This is an XI model, introduced in 1802–03. The steel scabbard is tougher than earlier brass and leather examples.



Polished steel

SCABBARD



Pommel and grip made of blackened metal

Curved projection on shell guard

Fuller set off-center, away from cutting edge

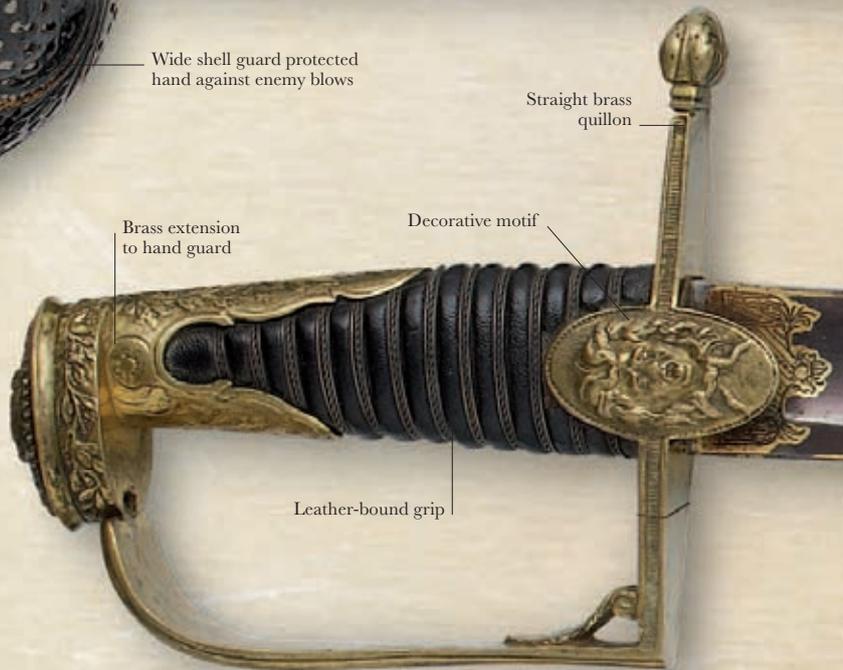
Wide shell guard protected hand against enemy blows

CAVALRY OFFICER'S SWORD

DATE c. 18th century / **WEIGHT** c. 3¼ lb (1.5 kg)

ORIGIN France / **LENGTH** c. 3½ ft (1.1 m)

This French cavalry officer's sword features the regimental title on the ricasso—the *1e Régiment d'Hussards* (First Regiment of Hussars). It has a highly curved blade, ideal for delivering downward slashes to the enemy infantry below the rider. A brass hand guard encloses the grip hand. The high level of decoration probably means that the sword was for ceremonial use only.



Straight brass quillon

Brass extension to hand guard

Decorative motif

Leather-bound grip



FULL VIEW

OLIVER CROMWELL'S SWORD

DATE	17th century	WEIGHT	c. 3 lb (1.4 kg)
ORIGIN	Britain	LENGTH	c. 3½ ft (1.1 m)

This sword is reputed to have been carried by Oliver Cromwell, the famous English soldier and statesman, at the battle of Drogheda in 1649. It features an elaborate "mortuary style" hilt. It has a wire-wound sharkskin grip, which would have provided a solid grip for sweaty hands during actual combat.

“
I FORBADE THEM TO SPARE ANY THAT
WERE IN ARMS... THEY PUT TO THE SWORD
ABOUT 2,000 MEN.
”

CROMWELL ON THE SLAUGHTER AT DROGHEDA, IRELAND, 1649

Regimental
inscription
on ricasso

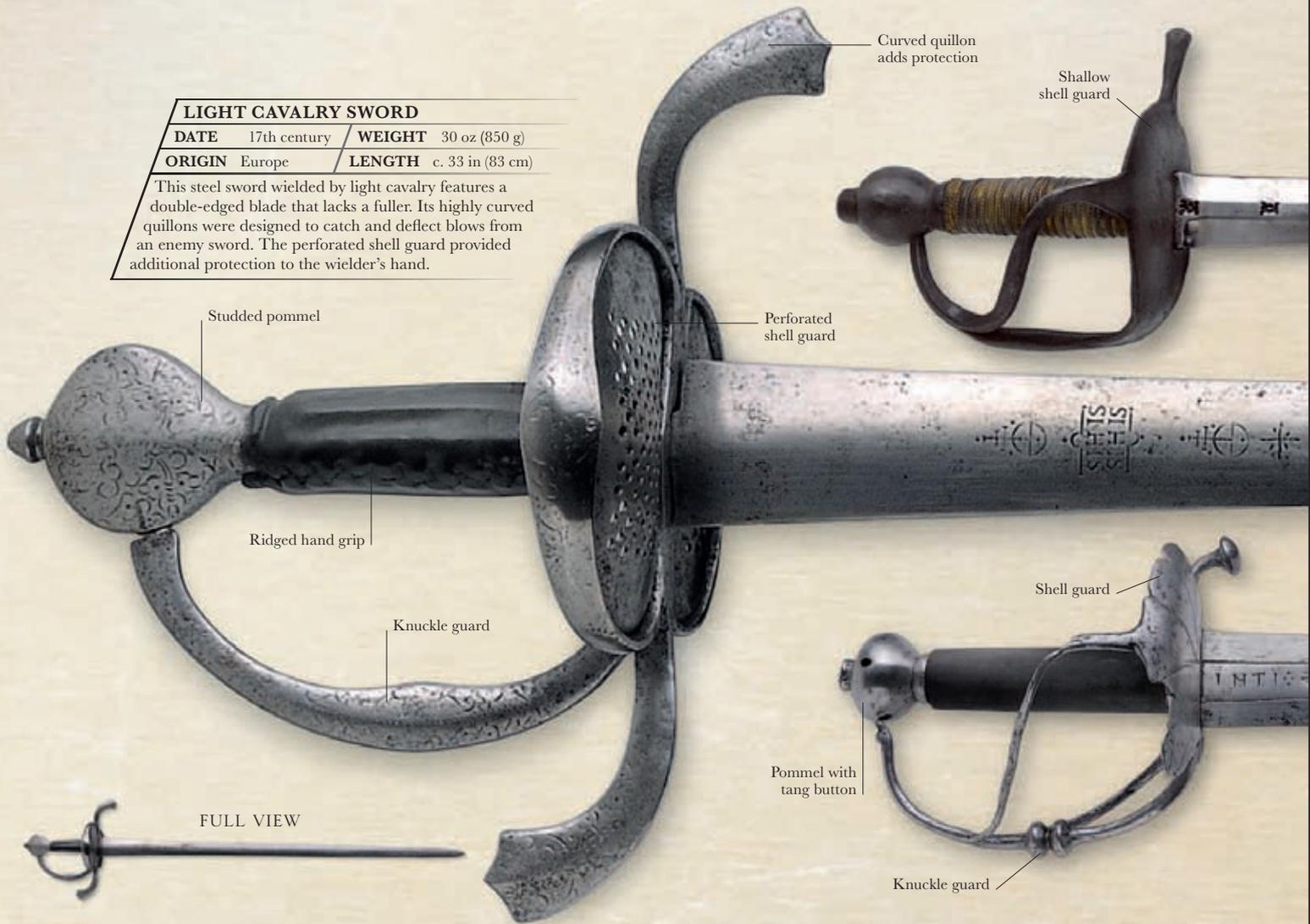


FULL VIEW

LIGHT CAVALRY SWORD

DATE	17th century	WEIGHT	30 oz (850 g)
ORIGIN	Europe	LENGTH	c. 33 in (83 cm)

This steel sword wielded by light cavalry features a double-edged blade that lacks a fuller. Its highly curved quillons were designed to catch and deflect blows from an enemy sword. The perforated shell guard provided additional protection to the wielder's hand.





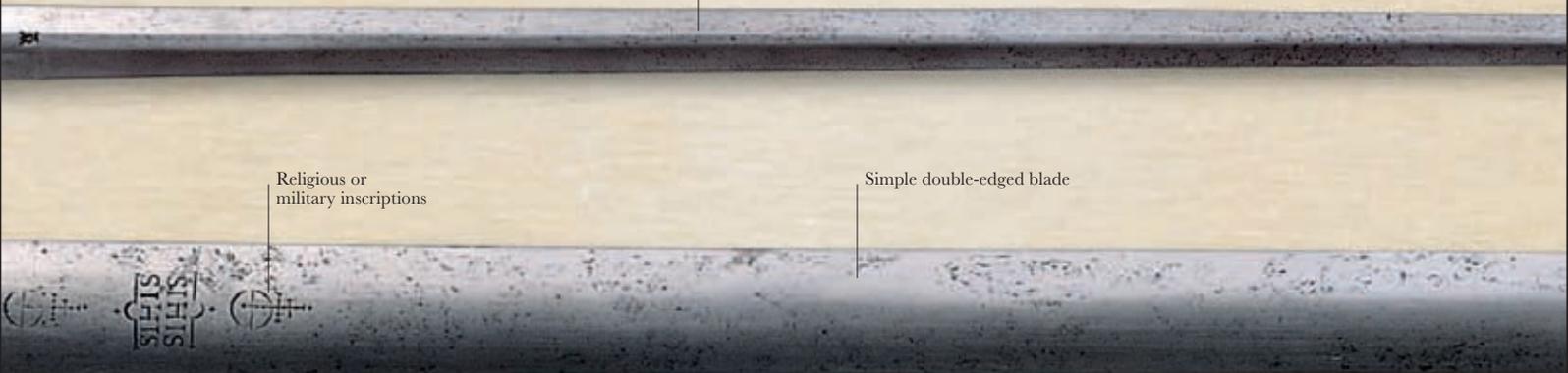
FULL VIEW

Long blade with diamond cross-section

SWEDISH CAVALRY SWORD

DATE	c. 18th century	WEIGHT	c. 32 oz (900 g)
ORIGIN	Sweden	LENGTH	c. 36 in (91 cm)

This Swedish cavalry sword has a hilt style reminiscent of the mortuary sword (see pp. 130–31). It features a long, thin diamond cross-section blade, which was strong enough to withstand the force generated when the cavalryman thrust the sword into an opponent from horseback.



Religious or military inscriptions

Simple double-edged blade

Lightly engraved ricasso

Shallow fuller



FULL VIEW

SWEDISH SWORD

DATE	c. 18th century	WEIGHT	c. 2¾ lb (1.2 kg)
ORIGIN	Sweden	LENGTH	c. 3½ ft (1.1 m)

The knuckle guard of this Swedish sword is made of light metal wire. It sweeps backward from a scalloped steel shell guard and ends at the pommel, which has a visible tang button. A shallow fuller, which runs three-quarters of the blade length, lightens the blade.

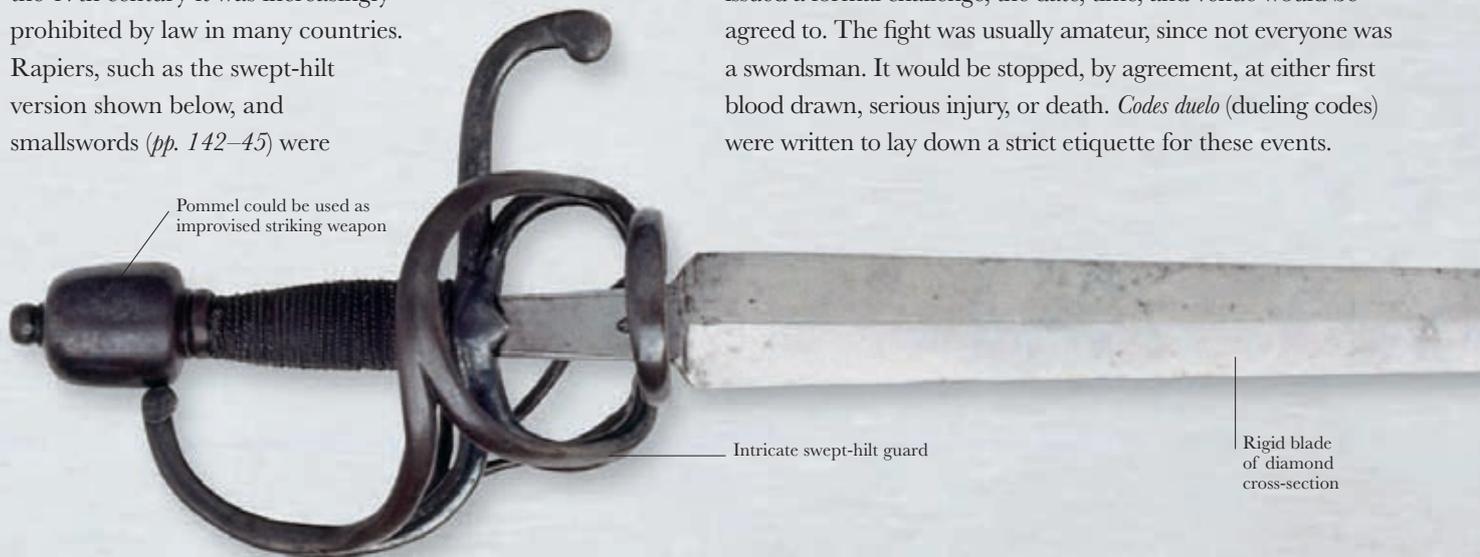
DUELING

Dueling—the settling of a dispute or matter of honor through individual combat—has ancient origins. The Vikings were known to engage in *holmanga*, duels in which two fighters slashed at one another until blood was drawn or money offered in settlement. In Europe, dueling thrived from the Middle Ages until the late 19th century, although from the 17th century it was increasingly prohibited by law in many countries. Rapiers, such as the swept-hilt version shown below, and smallswords (*pp.* 142–45) were

common dueling weapons, sometimes provided in paired sets to duelists by their assistants, who would check the weapons to ensure neither party had an unfair advantage over the other.



The rules of a duel were fairly simple. After one party had issued a formal challenge, the date, time, and venue would be agreed to. The fight was usually amateur, since not everyone was a swordsman. It would be stopped, by agreement, at either first blood drawn, serious injury, or death. *Codes duelo* (dueling codes) were written to lay down a strict etiquette for these events.



Pommel could be used as improvised striking weapon

Intricate swept-hilt guard

Rigid blade of diamond cross-section

“
IF SWORDS ARE USED, THE PARTIES
ENGAGE UNTIL ONE IS
WELL BLOODED,
DISABLED, OR DISARMED.”

FROM AN 18th CENTURY IRISH *CODE DUELO*

SWEPT-HILT RAPIER

DATE	1600–60	WEIGHT	2¼ lb (1.27 kg)
ORIGIN	Europe	LENGTH	4¼ ft (1.3 m)

This classic infantry weapon of the 17th century was designed purely as a thrusting weapon. Swordplay using the point of the sword was considered the art of a gentleman—in addition to being a military weapon, the rapier was the duelist's weapon of choice, until it was replaced by the pistol in the late 17th century.

PARISIAN DUEL

This illustration by French artist Maurice Leloir (1851–1940) shows two men fighting a duel using rapiers. Since not all citizens were trained in swordplay, some accounts of duels mention little more than two people stabbing each another until one died.



EUROPEAN RAPIERS

In the 16th century the rapier became the status symbol of a swordsman, showing that he was a man of substance and knew how to use his sword. The term is derived from the 15th-century Spanish term *espada ropera*, or “sword of the robes,” meaning the weapon of a gentleman. By 1500, the rapier was used throughout Europe, and it would remain the premier gentleman’s sword until the late 17th century. Although it was certainly used on the battlefield, it was more readily associated with court, dueling, and fashion—hence the tendency toward delicate, intricate designs.

PAPPENHEIM-HILT RAPIER

DATE 1630	WEIGHT 2¼ lb (1.25 kg)
ORIGIN Germany	LENGTH 4½ in (1.4 m)

This style of rapier was popularized by Count Pappenheim, an imperial general of the Thirty Years’ War (1618–48), a war that involved most of the countries of Europe at some point. Designed for military use, the Pappenheim-hilt rapier was soon copied throughout Europe, since its two pierced shell guards provided good protection for the swordsman.

Pommel in the shape of an urn

FULL VIEW

S-shaped quillon

Diamond cross-section twisting blade

Pierced shell guard



SPANISH CUP-HILT RAPIER

DATE c. 1650 / **WEIGHT** 2¼ lb (1.02 kg)

ORIGIN Spain / **LENGTH** 38 in (96 cm)

In Spain, and those parts of Italy under Spanish influence, the guard of the rapier became fully enclosed, producing the “cup-hilt” guard form. A raised rim on the cup hilt called the Rompepuntas was used to trap opponents’ blades.

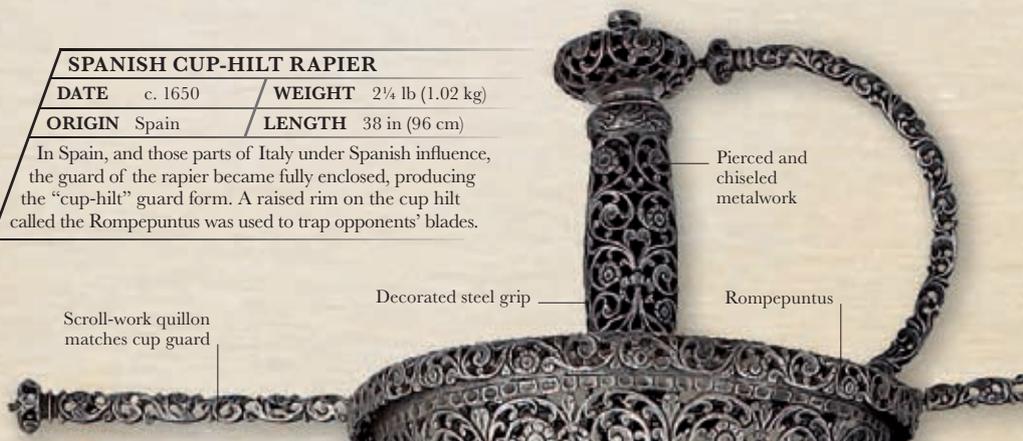


Large spherical pommel

Single bar protects knuckles

Grip ornately bound in wire

FULL VIEW



Scroll-work quillon matches cup guard

Decorated steel grip

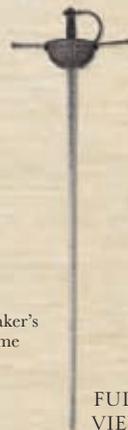
Pierced and chiseled metalwork

Rompepuntas

Plain bar quillon

Cup provides excellent protection for hand

Bars act as hand guard



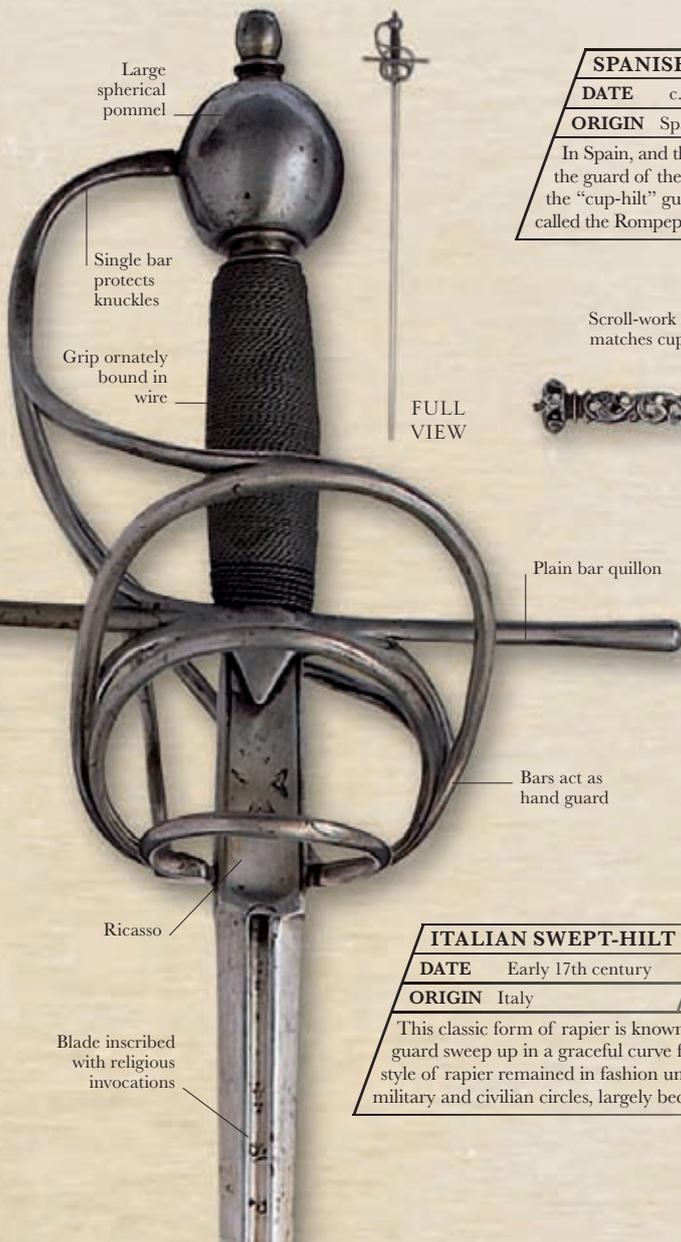
FULL VIEW

ITALIAN SWEEP-HILT RAPIER

DATE Early 17th century / **WEIGHT** 2¼ lb (1.02 kg)

ORIGIN Italy / **LENGTH** 4⅓ ft (1.36 m)

This classic form of rapier is known as a sweep-hilt, because the bars of the guard sweep up in a graceful curve from the ricasso to the pommel. This style of rapier remained in fashion until the early 17th century in both military and civilian circles, largely because of its elegant appearance.



Ricasso

Blade inscribed with religious invocations

DATE Early 17th century

WEIGHT 2¼ lb (1.02 kg)

ORIGIN Italy

LENGTH 4⅓ ft (1.36 m)

This classic form of rapier is known as a sweep-hilt, because the bars of the guard sweep up in a graceful curve from the ricasso to the pommel. This style of rapier remained in fashion until the early 17th century in both military and civilian circles, largely because of its elegant appearance.

Maker's name



Knuckle guard

Shell-shaped pommel

EARLY RAPIER

DATE 1520–30 **WEIGHT** 2¾ lb (1.21 kg)

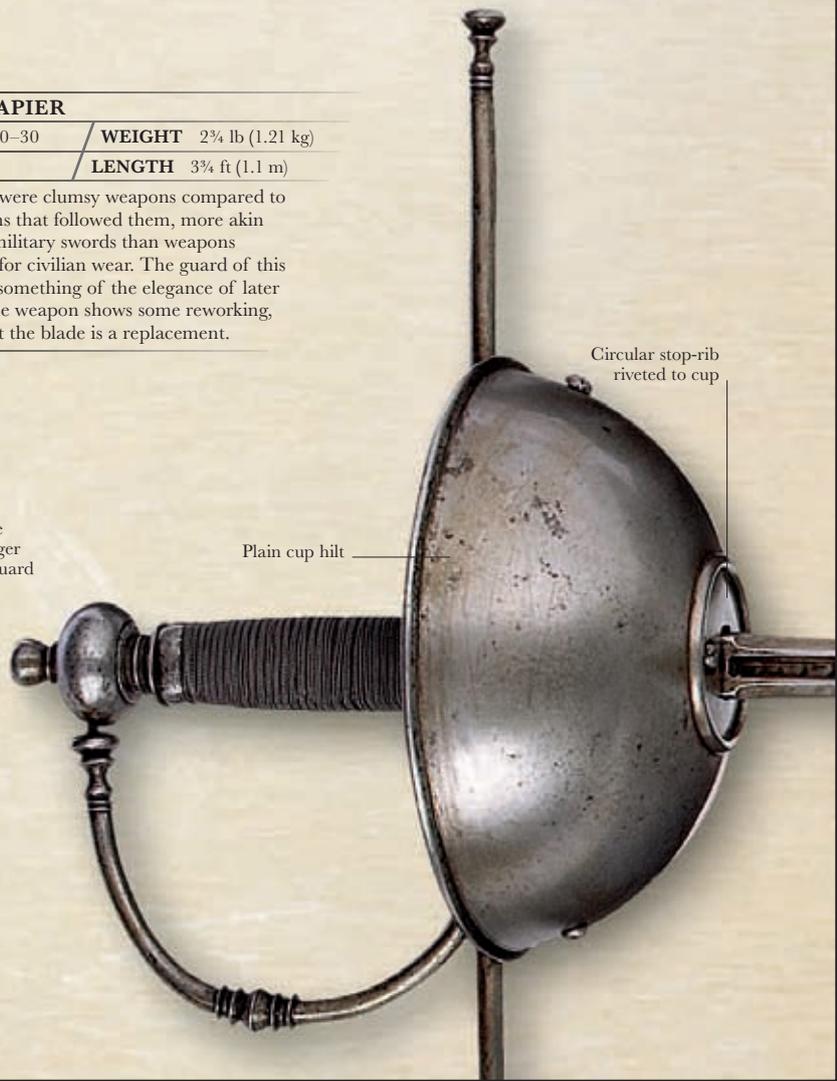
ORIGIN Italy **LENGTH** 3¾ ft (1.1 m)

The first rapiers were clumsy weapons compared to the elegant designs that followed them, more akin to contemporary military swords than weapons designed primarily for civilian wear. The guard of this rapier, however, has something of the elegance of later swept-hilt designs. The weapon shows some reworking, which may suggest that the blade is a replacement.

Double forefinger hook guard

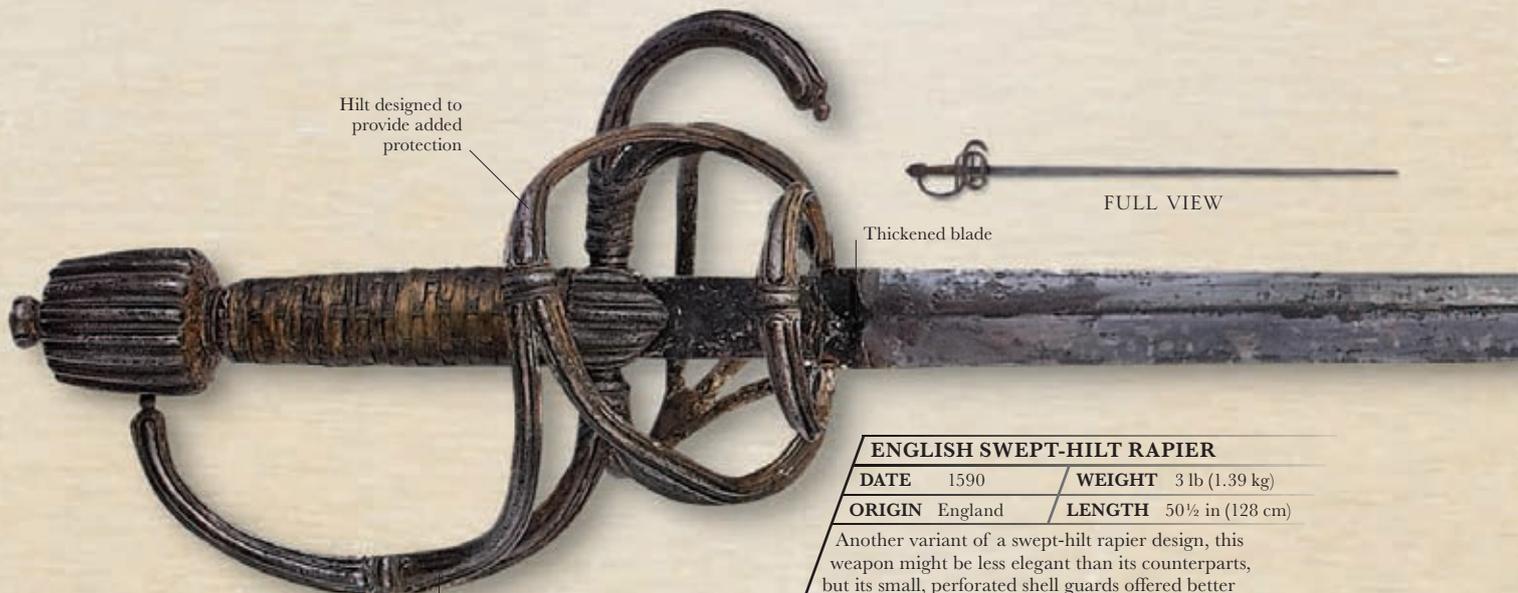
Straight, double-edged blade

FULL VIEW



Circular stop-rib riveted to cup

Plain cup hilt



Hilt designed to provide added protection

Thickened blade

Swept hilt of chiseled iron

Simple ricasso

Shallow diamond cross-section blade

FULL VIEW

ENGLISH SWEPT-HILT RAPIER

DATE 1590 / **WEIGHT** 3 lb (1.39 kg)

ORIGIN England / **LENGTH** 50½ in (128 cm)

Another variant of a swept-hilt rapier design, this weapon might be less elegant than its counterparts, but its small, perforated shell guards offered better protection. In this example the grip is bound in woven wire, which suggests this rapier was made as a dress sword rather than for military use.

ITALIAN CUP-HILT RAPIER

DATE c. 1680 / **WEIGHT** 32 oz (900 g)

ORIGIN Italy / **LENGTH** 4 ft (1.2 m)

Unlike other rapiers, this weapon, belonging to a later period, was designed as a fencing piece rather than as a weapon, and hence denoted gentlemanly status. It has an extremely narrow diamond cross-section blade, and a simple, unadorned cup hilt.



FULL VIEW

EUROPEAN SMALLSWORDS

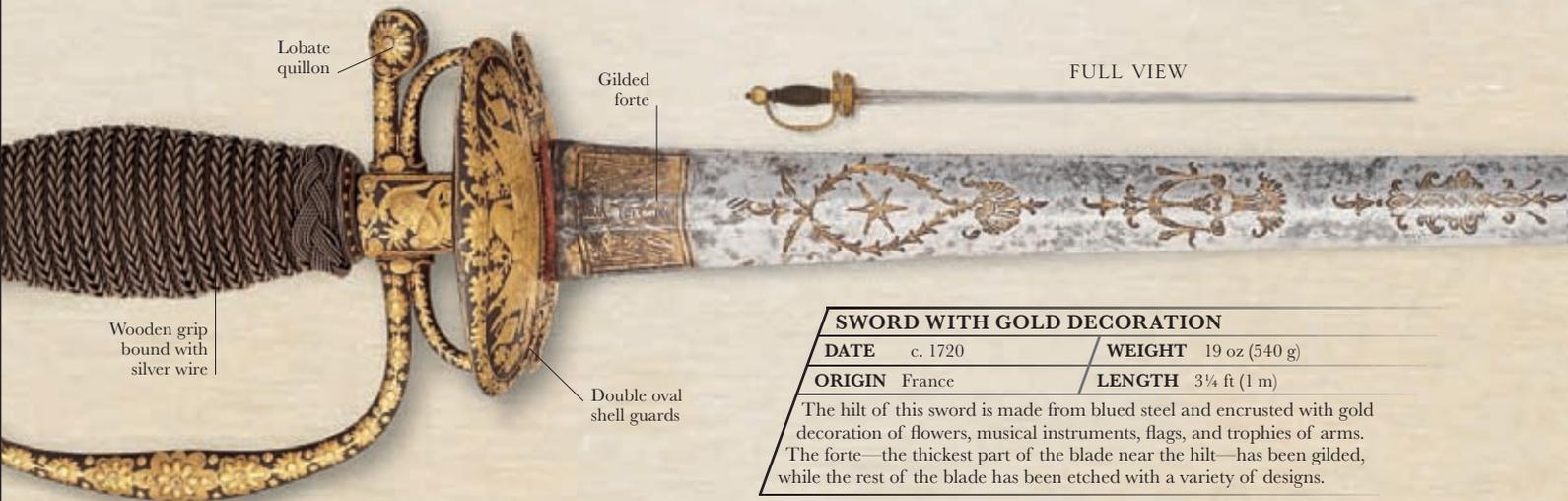
A development of the rapier, the smallsword came into general use in Western Europe toward the end of the 17th century. It was a civilian weapon—an essential item of dress for any gentleman that also acted as a dueling sword. Intended solely for thrusting, the smallsword typically had a stiff triangular blade, without sharpened edges, which in the hands of a skillful swordsman was a deadly fencing weapon. Although simple in overall design—the handguard consisting of a small cup, and finger and knuckle guards—many smallswords were magnificently decorated, reflecting the status of their owners.

ETCHED SWORD

DATE	c. 1720	WEIGHT	14 oz (400 g)
ORIGIN	France	LENGTH	34¾ in (88.5 cm)

This fine sword is decorated with hunting scenes of hounds and game etched in relief against a matte gold background. The steel hilt has a spherical pommel and button, and the grip is bound with silver ribbon and plated silver wire.





Lobate
quillon

Gilded
forte

FULL VIEW

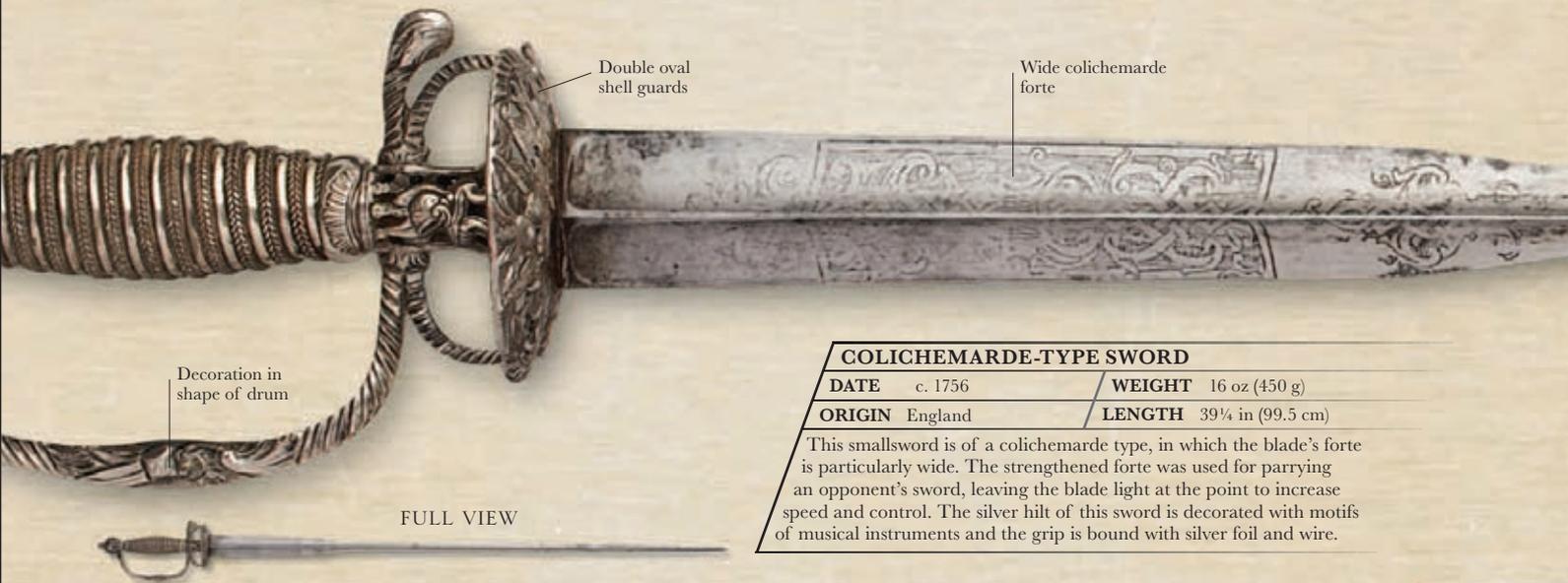
Wooden grip
bound with
silver wire

Double oval
shell guards

SWORD WITH GOLD DECORATION

DATE	c. 1720	WEIGHT	19 oz (540 g)
ORIGIN	France	LENGTH	3¼ ft (1 m)

The hilt of this sword is made from blued steel and encrusted with gold decoration of flowers, musical instruments, flags, and trophies of arms. The forte—the thickest part of the blade near the hilt—has been gilded, while the rest of the blade has been etched with a variety of designs.



Double oval
shell guards

Wide colichemarde
forte

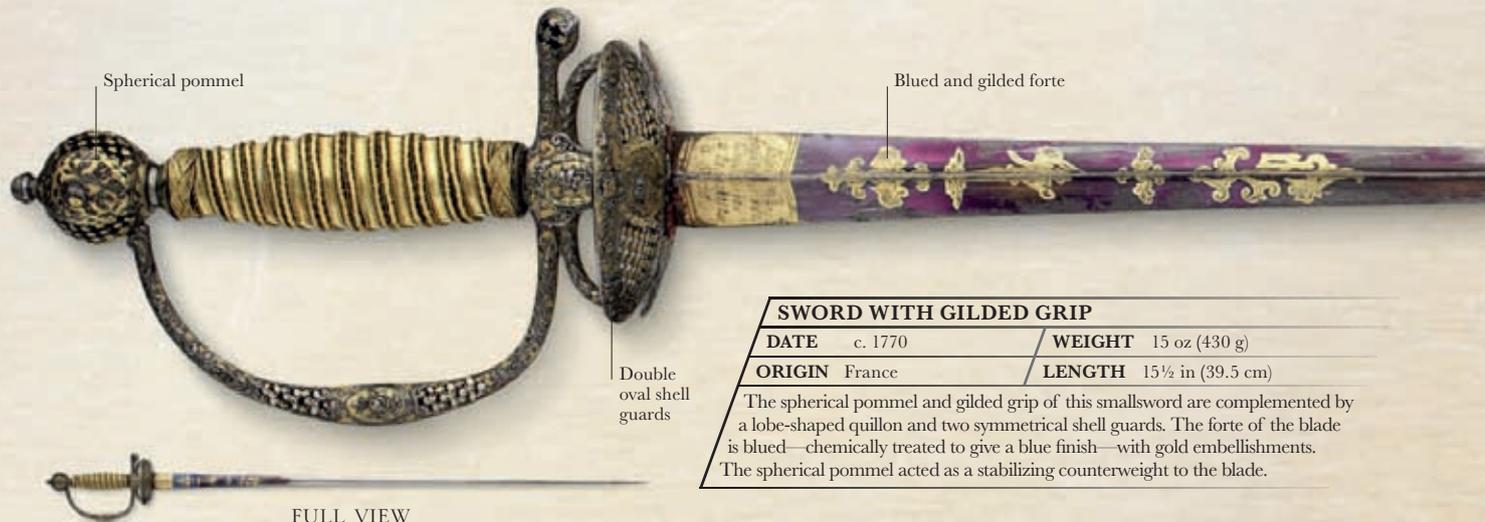
FULL VIEW

Decoration in
shape of drum

COLICHEMARDE-TYPE SWORD

DATE	c. 1756	WEIGHT	16 oz (450 g)
ORIGIN	England	LENGTH	39¼ in (99.5 cm)

This smallsword is of a colichemarde type, in which the blade's forte is particularly wide. The strengthened forte was used for parrying an opponent's sword, leaving the blade light at the point to increase speed and control. The silver hilt of this sword is decorated with motifs of musical instruments and the grip is bound with silver foil and wire.



Spherical pommel

Blued and gilded forte

Double
oval shell
guards

SWORD WITH GILDED GRIP

DATE	c. 1770	WEIGHT	15 oz (430 g)
ORIGIN	France	LENGTH	15½ in (39.5 cm)

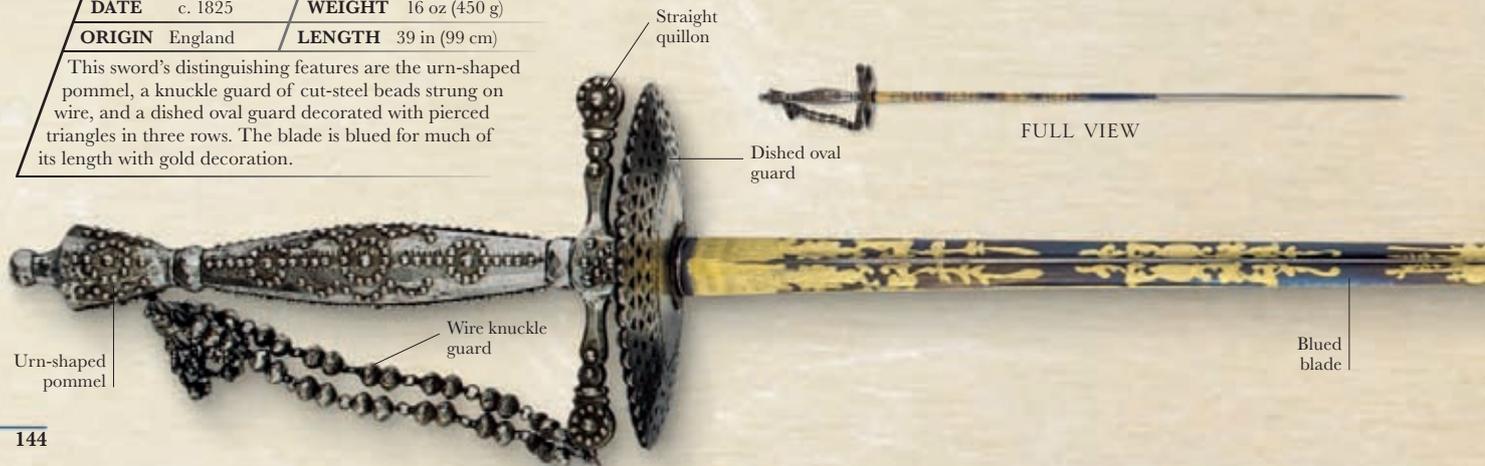
The spherical pommel and gilded grip of this smallsword are complemented by a lobe-shaped quillon and two symmetrical shell guards. The forte of the blade is blued—chemically treated to give a blue finish—with gold embellishments. The spherical pommel acted as a stabilizing counterweight to the blade.

FULL VIEW

SWORD WITH WIRE KNUCKLE GUARD

DATE	c. 1825	WEIGHT	16 oz (450 g)
ORIGIN	England	LENGTH	39 in (99 cm)

This sword's distinguishing features are the urn-shaped pommel, a knuckle guard of cut-steel beads strung on wire, and a dished oval guard decorated with pierced triangles in three rows. The blade is blued for much of its length with gold decoration.



Straight
quillon

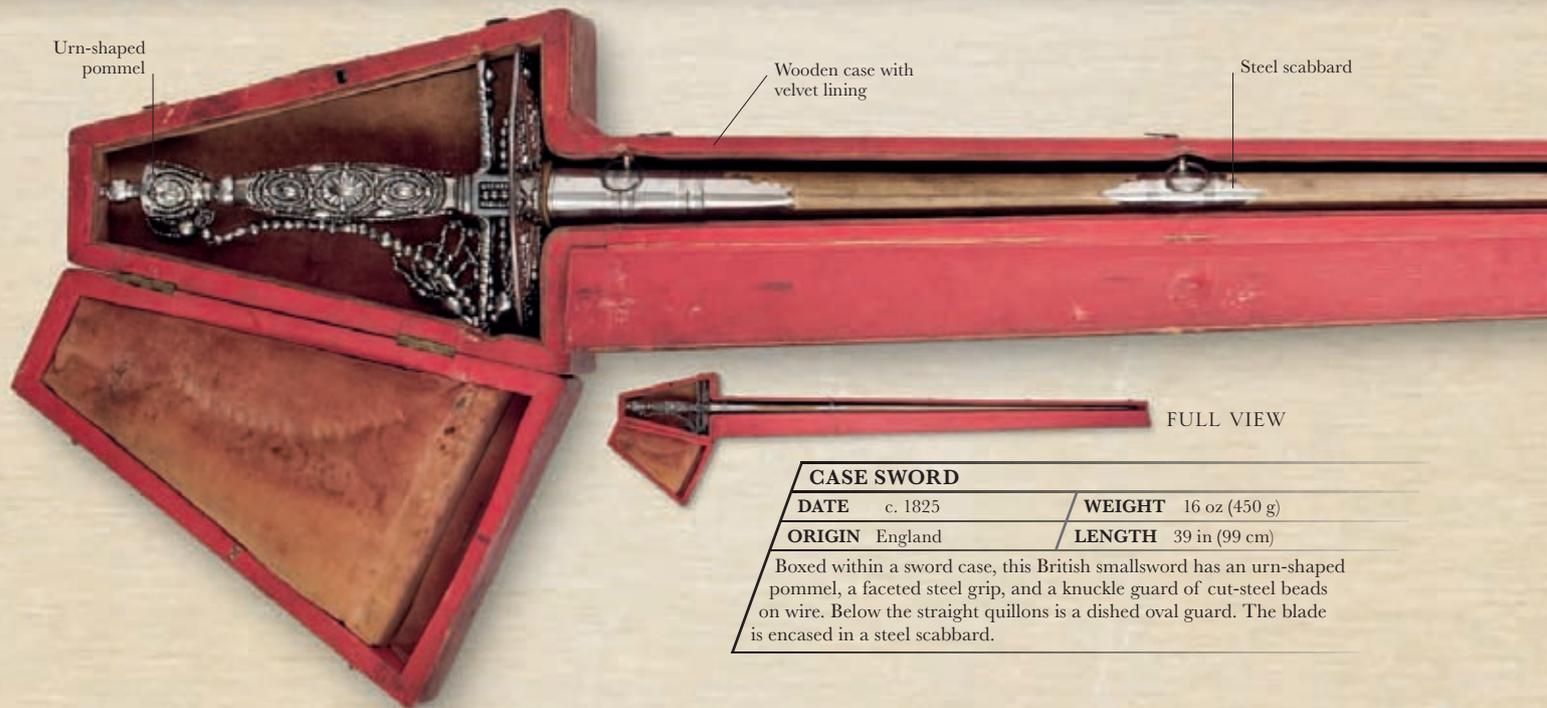
Dished oval
guard

FULL VIEW

Urn-shaped
pommel

Wire knuckle
guard

Blued
blade



Urn-shaped pommel

Wooden case with velvet lining

Steel scabbard

FULL VIEW

CASE SWORD

DATE	c. 1825	WEIGHT	16 oz (450 g)
ORIGIN	England	LENGTH	39 in (99 cm)

Boxed within a sword case, this British smallsword has an urn-shaped pommel, a faceted steel grip, and a knuckle guard of cut-steel beads on wire. Below the straight quillons is a dished oval guard. The blade is encased in a steel scabbard.

EUROPEAN HUNTING SWORDS

During the 16th century, specialized hunting swords came into widespread use among Europe's aristocracy. The swords were short in length and often had a slightly curved, single-edged blade, typically of very robust design to cope with the rigors of hunting. For the most part, hunting swords were used to finish off an animal wounded by a spear or shot. In the case of boar swords, however, they might act as the primary weapon, the boar being killed from horseback by a single powerful thrust. Hunting swords were often elaborately decorated and frequently featured engraved scenes of the chase. During the 18th century, the hanger hunting sword, with its short, curved, single-edged blade, acted as a model for the ordinary soldier's fighting sword.



ITALIAN HUNTING HANGER

DATE c. 1550	WEIGHT 3½ lb (1.68 kg)
ORIGIN Italy	LENGTH 24 in (61 cm)

This magnificently decorated hanger may have belonged to Cosimo de Medici (1519–74). It was probably used in the hunting of large game such as wolves or bears. The sword is decorated with the Medici coat of arms and has extensive gilt work on the cross-guard and pommel.

THE HUNTING SWORD MEANT THE HUNTER DIDN'T HAVE TO LOAD A FLINTLOCK GUN TO FINISH OFF WOUNDED PREY.

Mushroom-shaped
pommel cap

Modern, velvet-
covered grip

FULL
VIEW

Iron guard in
shape of ribbons

Decorated
quillon

ENGLISH HUNTING HANGER

DATE c. 1640 / **WEIGHT** 30 oz (860 g)

ORIGIN England / **LENGTH** 29½ in (75 cm)

This is an ornate hunting sword of the hanger type. Its blackened iron hilt is decorated with encrusted patterns in silver. The shell guard is formed as if of three interlaced ribbon ends, and the decoration at the pommel echoes this design.

Single-edged
German blade

HUNTING HANGER

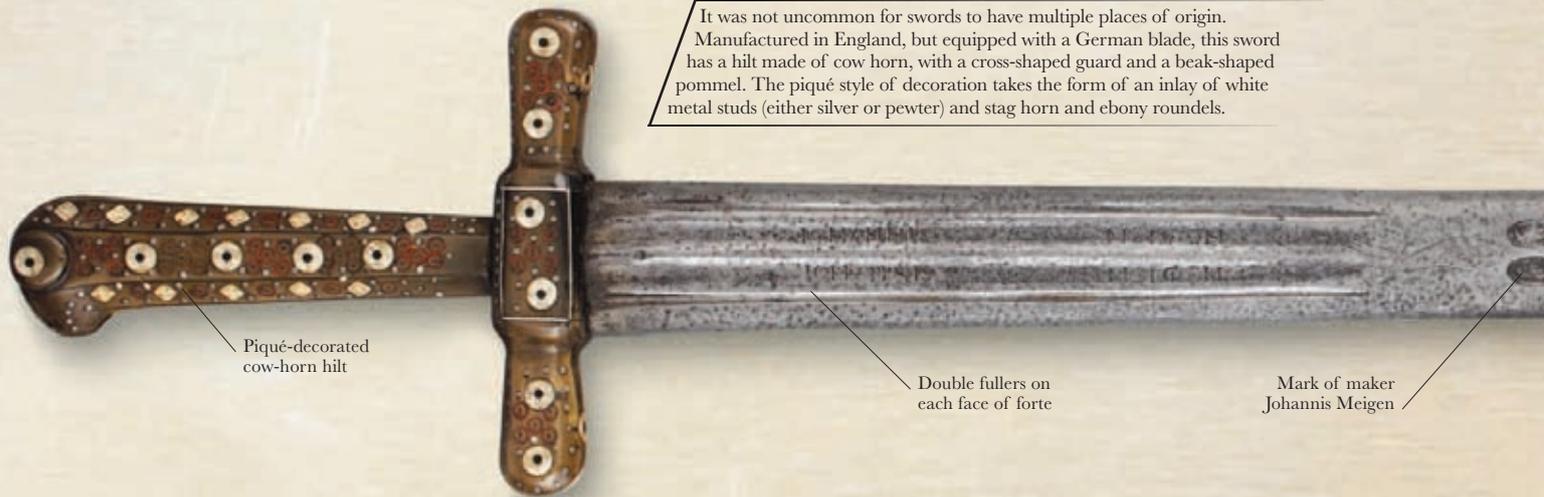
DATE 1647

WEIGHT 30 oz (860 g)

ORIGIN England/Germany

LENGTH 31 in (78.7 cm)

It was not uncommon for swords to have multiple places of origin. Manufactured in England, but equipped with a German blade, this sword has a hilt made of cow horn, with a cross-shaped guard and a beak-shaped pommel. The piqué style of decoration takes the form of an inlay of white metal studs (either silver or pewter) and stag horn and ebony roundels.



Piqué-decorated
cow-horn hilt

Double fullers on
each face of forte

Mark of maker
Johannis Meigen



Bone grip,
stained green

Brass pommel

Cast-brass guard with
recurved quillons and
rococo design

IN 1600, SIR JOHN RAMSEY
PLUNGED HIS HANGER
INTO AN ASSASSIN WHO WAS
ATTEMPTING TO KILL KING JAMES VI.



Double-edged blade
with hatched point
(curved diagonal front edge)

STRAIGHT HANGER

DATE	c. 1780	WEIGHT	30 oz (860 g)
ORIGIN	France	LENGTH	29½ in (75 cm)

This short hunting sword from the late 18th century is of a more decorative than functional design. The brass guard and pommel are complemented by a straight, finely engraved, single-edged blade.



Single-edged,
pointed blade

HUNTING SWORD

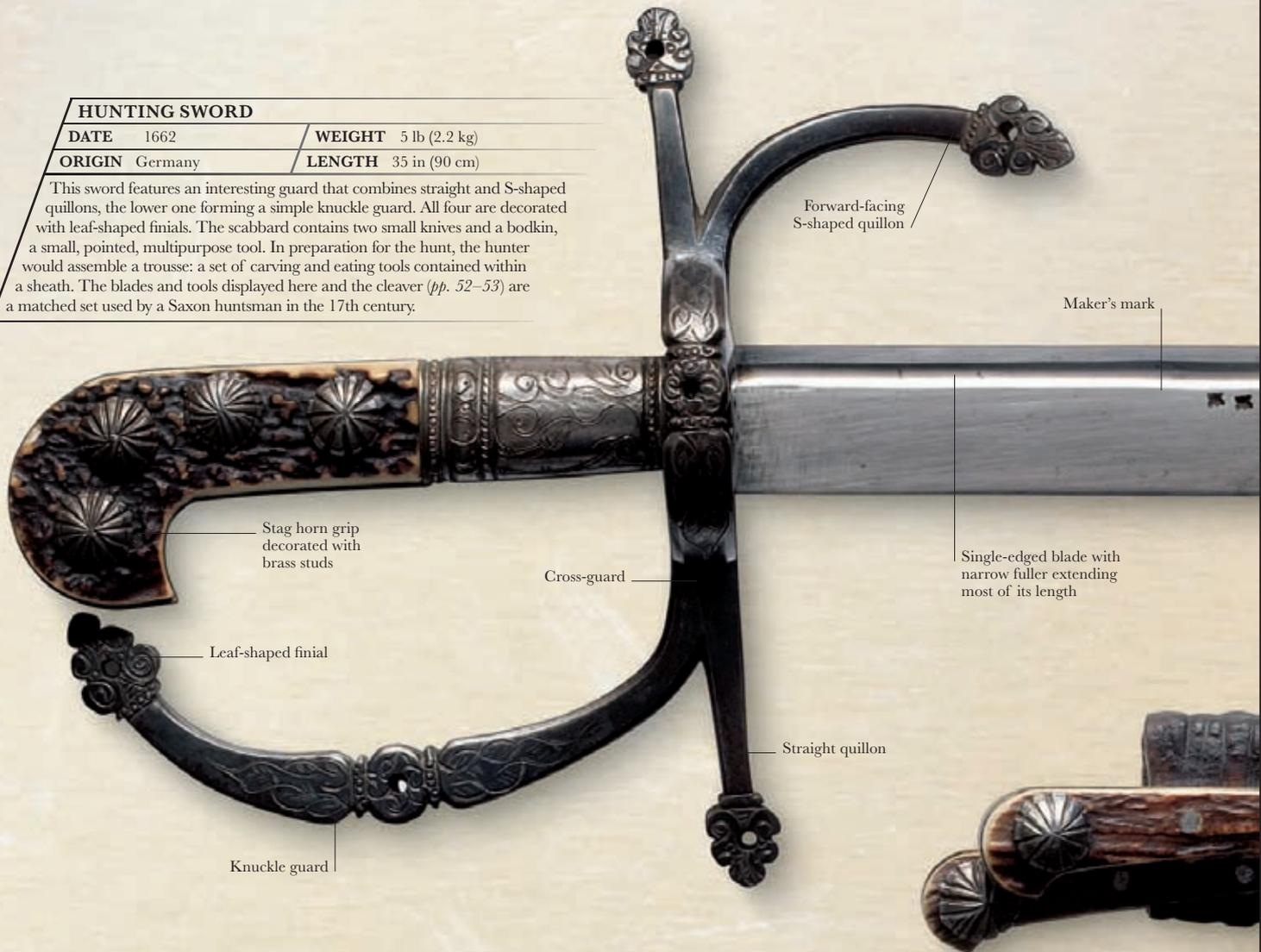
DATE 1662

WEIGHT 5 lb (2.2 kg)

ORIGIN Germany

LENGTH 35 in (90 cm)

This sword features an interesting guard that combines straight and S-shaped quillons, the lower one forming a simple knuckle guard. All four are decorated with leaf-shaped finials. The scabbard contains two small knives and a bodkin, a small, pointed, multipurpose tool. In preparation for the hunt, the hunter would assemble a *trousse*: a set of carving and eating tools contained within a sheath. The blades and tools displayed here and the cleaver (*pp.* 52–53) are a matched set used by a Saxon huntsman in the 17th century.



Forward-facing
S-shaped quillon

Maker's mark

Stag horn grip
decorated with
brass studs

Cross-guard

Single-edged blade with
narrow fuller extending
most of its length

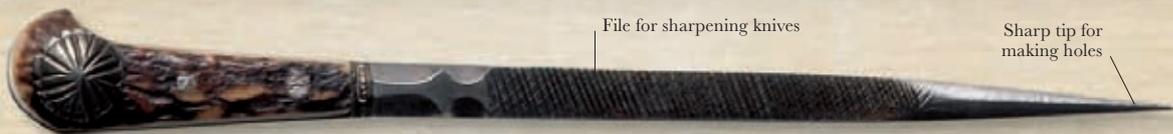
Leaf-shaped finial

Straight quillon

Knuckle guard



FULL VIEW



File for sharpening knives

Sharp tip for making holes

BODKIN

Pouch for knives and bodkin



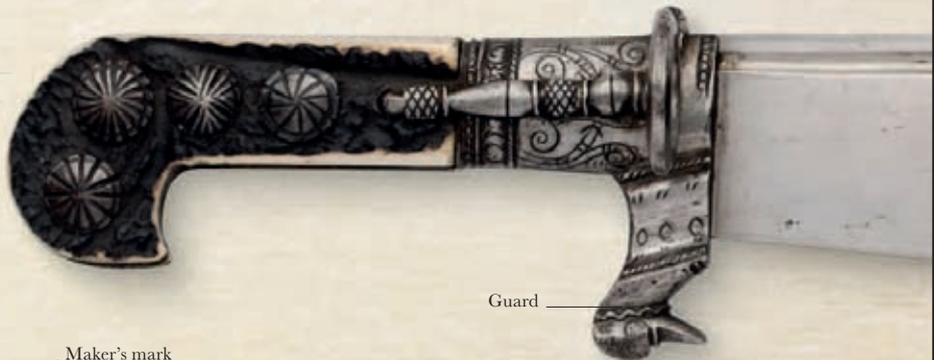
SCABBARD

HUNTING CLEAVER

DATE c. 1662 / **WEIGHT** 2½ lb (1 kg)

ORIGIN Germany / **LENGTH** 18 in (46 cm)

Once the hunting sword (*p. 150*) delivered the *coup de grace* to the wounded animal, the cleaver was used to dismember the carcass. This sharp, heavy blade would have little trouble in cutting through animal joints, including those of larger beasts such as boar and deer.



Guard



Maker's mark

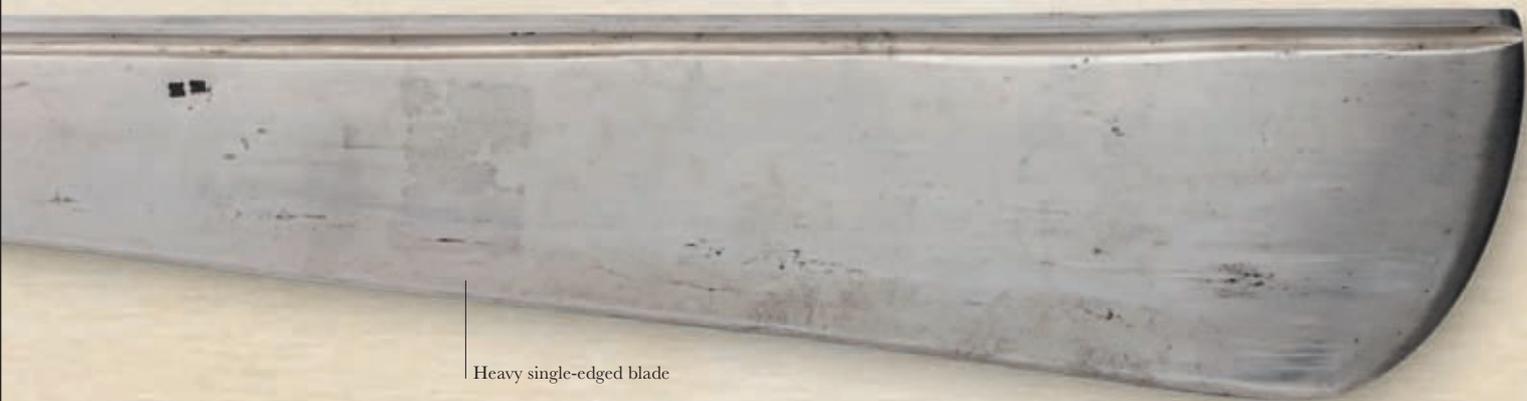
Sharp blade for trimming meat

CARVING KNIFE

Initials refer to the owner, John George II, Elector of Saxony



Five meat-trimming utensils in side pocket



Heavy single-edged blade



SCABBARD

COSSACK WARRIOR

The Cossacks were a people of Eurasian or Slavic descent who established themselves in Ukraine and southern Russia sometime around the 14th century. They produced talented mounted soldiers, who fought in various state armies as raiders, scouts, and light cavalry.



The Cossacks were known for their skill with a blade. Their traditional sword, the *shashka*, was a single-edged saber-like weapon with a curved pommel, but no hand guard. It was

ideal for slashing attacks while mounted on a horse, since the absence of a hand guard enabled the Cossack to make a cut using the full length of the blade. In addition to the *shashka*, the Cossacks also used a similarly designed short sword called a *kindjal*, which was used when fighting on foot or in close combat. Both of these slashing swords had very sharp points and could be used for thrusting, too. The Cossacks also used long lances, and although they quickly mastered muskets and rifles, Cossacks were known for their saber charges, which were recorded as late as World War I.



“
COSSACKS ARE THE BEST
LIGHT TROOPS AMONG ALL THAT EXIST.
IF I HAD THEM IN MY ARMY,
I WOULD GO THROUGH
ALL THE WORLD WITH THEM.”

NAPOLEON I, FRENCH EMPEROR (r. 1804–14), ON THE COSSACKS
DURING THE NAPOLEONIC WARS (1799–1815)

KINDJAL

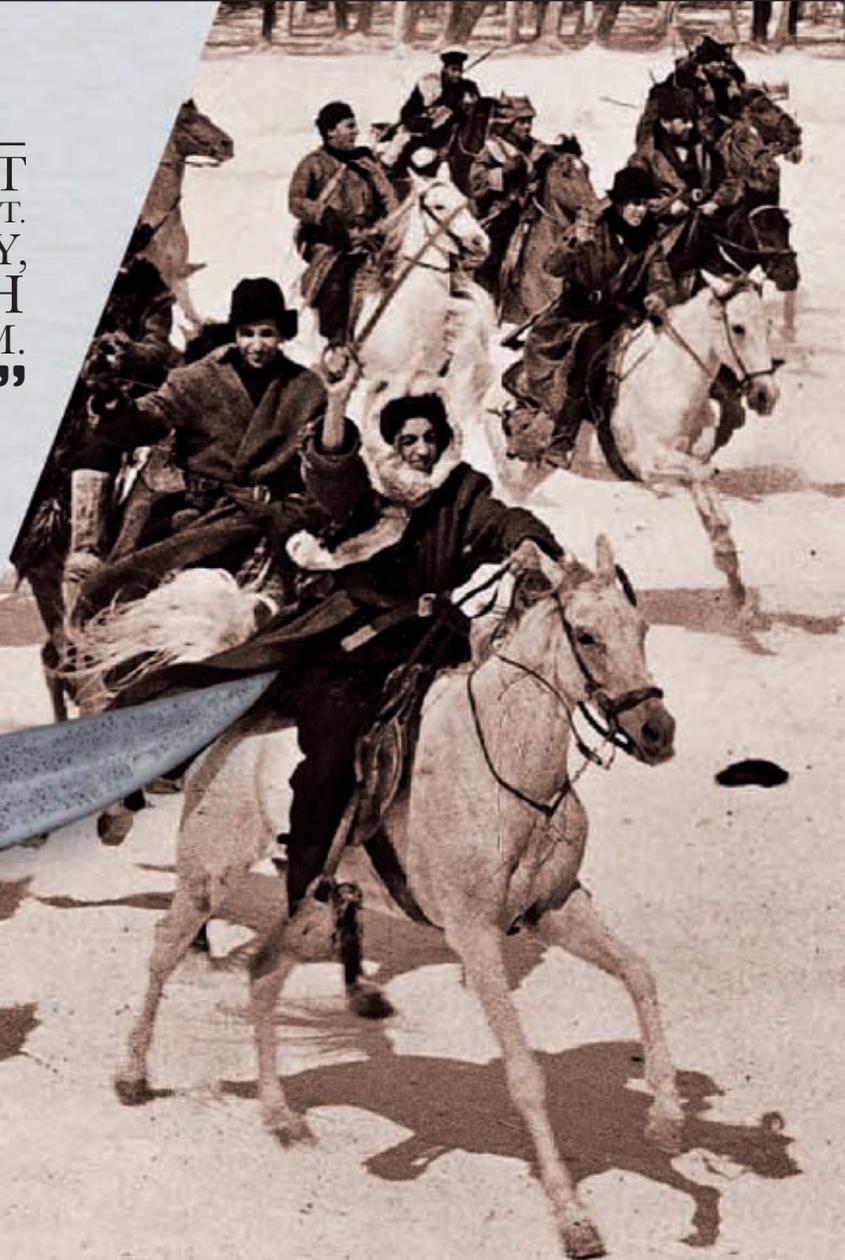
DATE c. 18th century **WEIGHT** c. 24½ oz (700 g)

ORIGIN Russia **LENGTH** c. 17 in (43 cm)

This curved short sword originated in the Caucasus, from where it was adopted by the Cossacks, along with the *shashka*. The wooden grip of the *kindjal* shown here is held in place by brass rivets and the blade has a double fuller. Sometimes triple fullers are also seen on both these swords.

RIDING HIGH

In this still from the 1965 film *Dr. Zhivago*, a mounted Cossack warrior holds his sword aloft. The sword is most likely a *shashka*, often used on horseback. A warrior would use the shorter *kindjal* once he was dismounted.



EUROPEAN DAGGERS

The dagger's prime role as a weapon of self-defense continued into the 16th and 17th centuries, and some new variants evolved, including the left-hand dagger, also known as the *maingauche* (French for left hand). This dagger was held in the left hand, to complement a sword or rapier held in the right. Typically with forward-facing quillons, the left-hand dagger parried thrusts and cuts from the opponent's blade, and also acted as an offensive weapon in its own right. The bayonet, another modification of the dagger, continues to be used to this day.

QUILLON DAGGER

DATE c. 1600

ORIGIN Western Europe

LENGTH 16½ in (42 cm)

The forward-facing quillons of this left-hand dagger were intended to trap an opponent's blade so that it could be deflected safely. The ricasso here has two fullers to lighten what would otherwise be a weighty part of the blade.



Decorated pommel echoes style of quillons

FULL VIEW

Restored wooden grip

Forward-facing quillon

Ricasso with two fullers

Diamond cross-section blade



Shell-shaped pommel

ENGLISH QUILLON DAGGER

DATE Late 16th century

ORIGIN England

LENGTH 15¼ in (38.7 cm)

This English left-hand dagger features a simple scallop-shell motif that is expressed in the iron pommel, cross-guard, and quillon finials. A dagger such as this was used for parrying an opponent's blade and also for close combat.

Steel tang
(missing grip)

FULL
VIEW

Small shell
guard

Forward-facing
quillon with
shell-shaped
finial

Double-edged
blade

Pierced triangular
knuckle guard with
raised rim

FULL
VIEW

Extra wide,
straight quillon

Ricasso

Trap for
opponent's blade

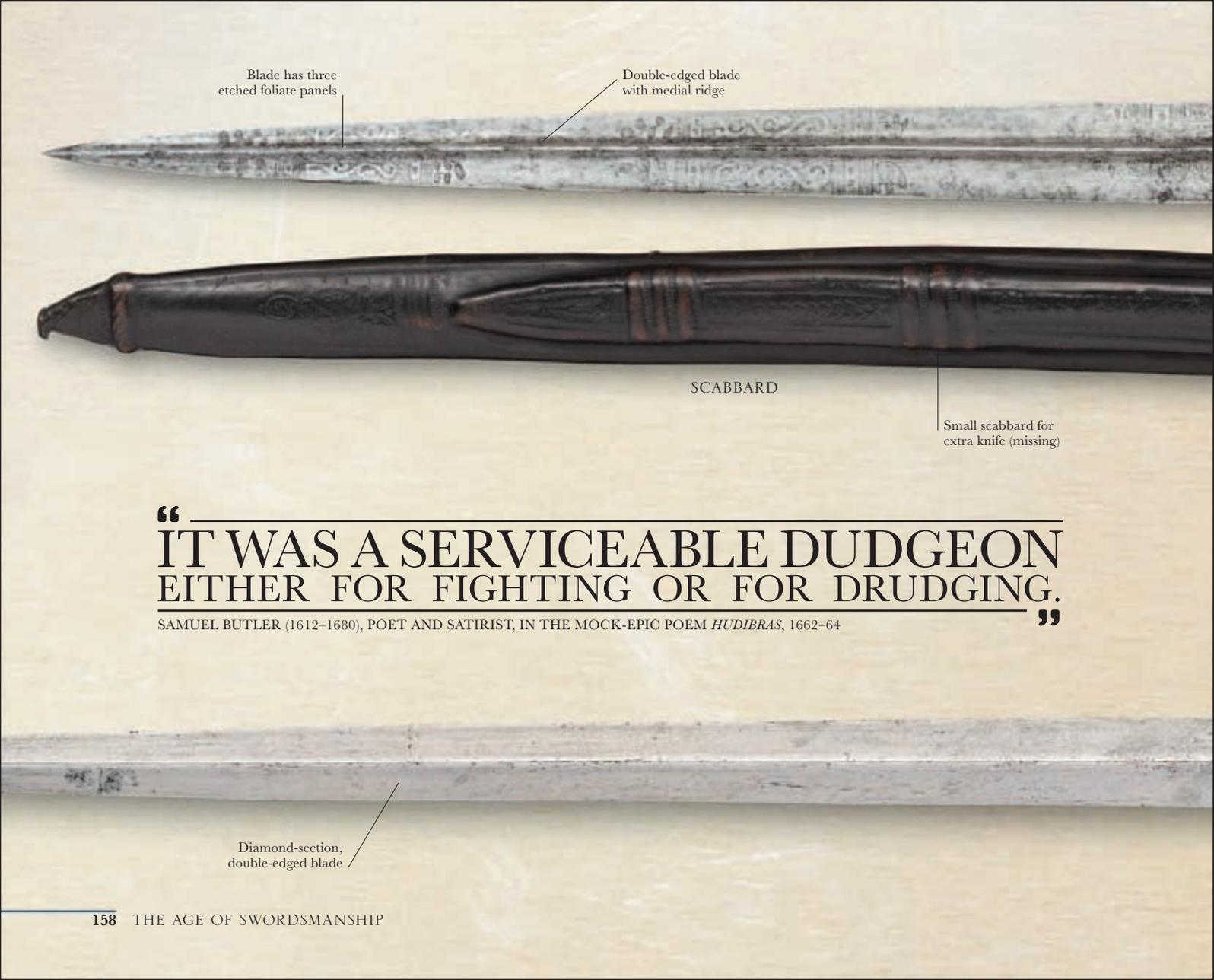
ITALIAN MAINGAUCHE

DATE c. 1650

ORIGIN Naples, Italy

LENGTH 22 in (56 cm)

During the 17th century the left-hand dagger fell out of fashion, except in Spain and southern Italy, where it developed into a highly specialized weapon complete with wide knuckle guard and quillons to deflect cutting strokes.



Blade has three
etched foliate panels

Double-edged blade
with medial ridge

SCABBARD

Small scabbard for
extra knife (missing)

“
**IT WAS A SERVICEABLE DUDGEON
EITHER FOR FIGHTING OR FOR DRUDGING.**
”

SAMUEL BUTLER (1612–1680), POET AND SATIRIST, IN THE MOCK-EPIC POEM *HUDIBRAS*, 1662–64

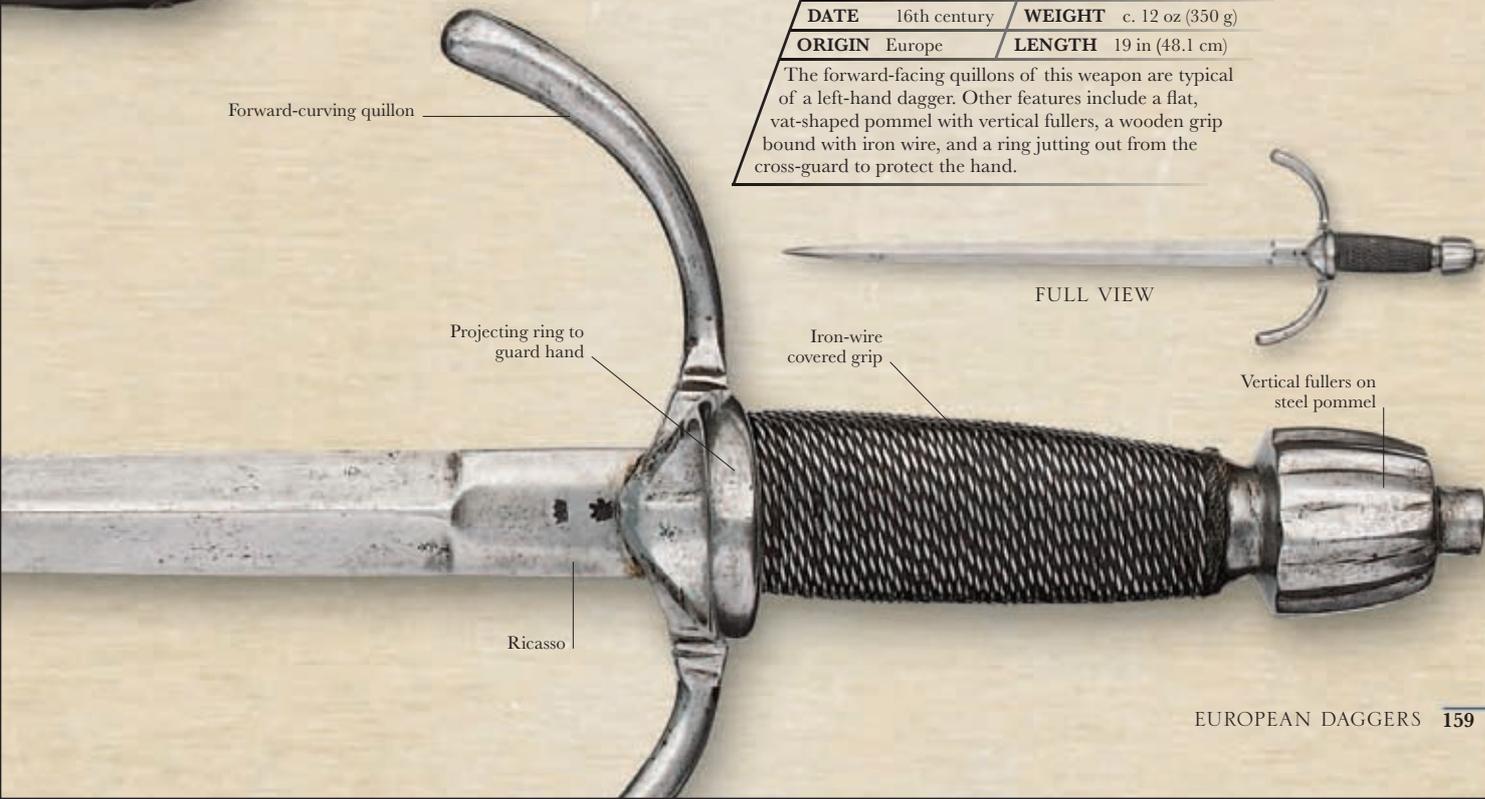
Diamond-section,
double-edged blade



Bog-oak hilt with fluted octagonal grip



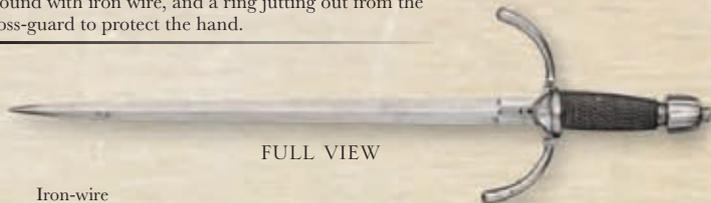
Forward-curving quillon



Projecting ring to guard hand

Iron-wire covered grip

Ricasso



FULL VIEW

Vertical fullers on steel pommel

DUDGEON DAGGER

DATE	c. 1603	WEIGHT	c. 26 oz (750 g)
ORIGIN	Scotland	LENGTH	14 in (35.4 cm)

A descendent of the medieval ballock dagger, the dudgeon dagger was a popular weapon, particularly in Scotland, from the end of the 16th century. It was defined by its wooden handle and the panels of foliate decoration on the blade. The main scabbard often included a smaller scabbard for holding a knife, used for jobs such as cutting and eating.

QUILLON DAGGER

DATE	16th century	WEIGHT	c. 12 oz (350 g)
ORIGIN	Europe	LENGTH	19 in (48.1 cm)

The forward-facing quillons of this weapon are typical of a left-hand dagger. Other features include a flat, vat-shaped pommel with vertical fullers, a wooden grip bound with iron wire, and a ring jutting out from the cross-guard to protect the hand.

STILETTO

DATE Late 16th century

ORIGIN Italy

LENGTH 12 in (30 cm)

Typically known as “the assassin’s weapon,” the stiletto was popular in Italy during the 16th and 17th centuries. Being slender, it was easy to conceal, and its triangular or four-sided blade could penetrate easily and deep into the body. The narrow point could even pierce chain mail and pass through gaps in plate armor.

Brass tang with
bone or ivory grip



PIRATE DAGGER

DATE c. 17th century

ORIGIN Unknown

LENGTH c. 8 in (20 cm)

This modern-day replica of a pirate dagger is based on the type of daggers typically used during the Renaissance period. The short, stout blade has a diamond cross-section, while the square-framed handle and backward-slanting cross-guard provide a very solid grip.

Molded
steel hilt



FULL VIEW

Leather-covered scabbard



SCABBARD

Cross-guard
with truncated
quillons



Backward-curving
cross-guard

Diamond-section blade

SCABBARD

HIGHLAND DIRK

DATE Early 18th century

ORIGIN Scotland

LENGTH 12–18 in (30–45 cm)

In the 16th and 17th centuries, Scottish highlanders armed themselves with long, unadorned daggers called dirks. Like the dudgeon, the dirk evolved from the medieval ballock dagger (*pp. 80–81*). Toward the end of the 18th century the dirk became increasingly ceremonial in form. It was often decorated with silver pommel caps and ferrules (metal rings to secure the wrapping on the grip).

Wooden hilt with strap-
interlace work on grip



Button terminal to decorated pommel

Ornate grip

Ring guard

Mother-of-pearl disk

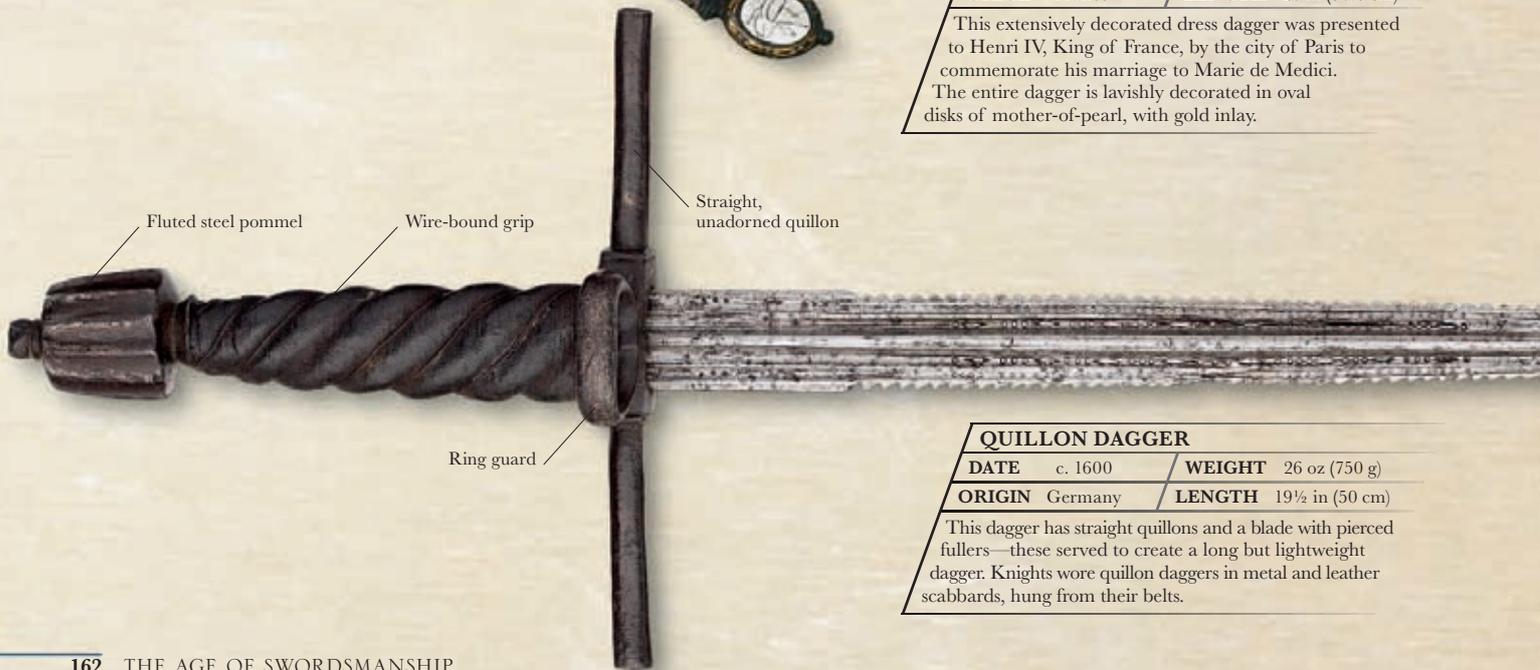
Gold inlay

Elaborately decorated ricasso

PRESENTATION DAGGER

DATE	1598–1600	WEIGHT	28 oz (810 g)
ORIGIN	France	LENGTH	20 in (50.8 cm)

This extensively decorated dress dagger was presented to Henri IV, King of France, by the city of Paris to commemorate his marriage to Marie de Medici. The entire dagger is lavishly decorated in oval disks of mother-of-pearl, with gold inlay.



Fluted steel pommel

Wire-bound grip

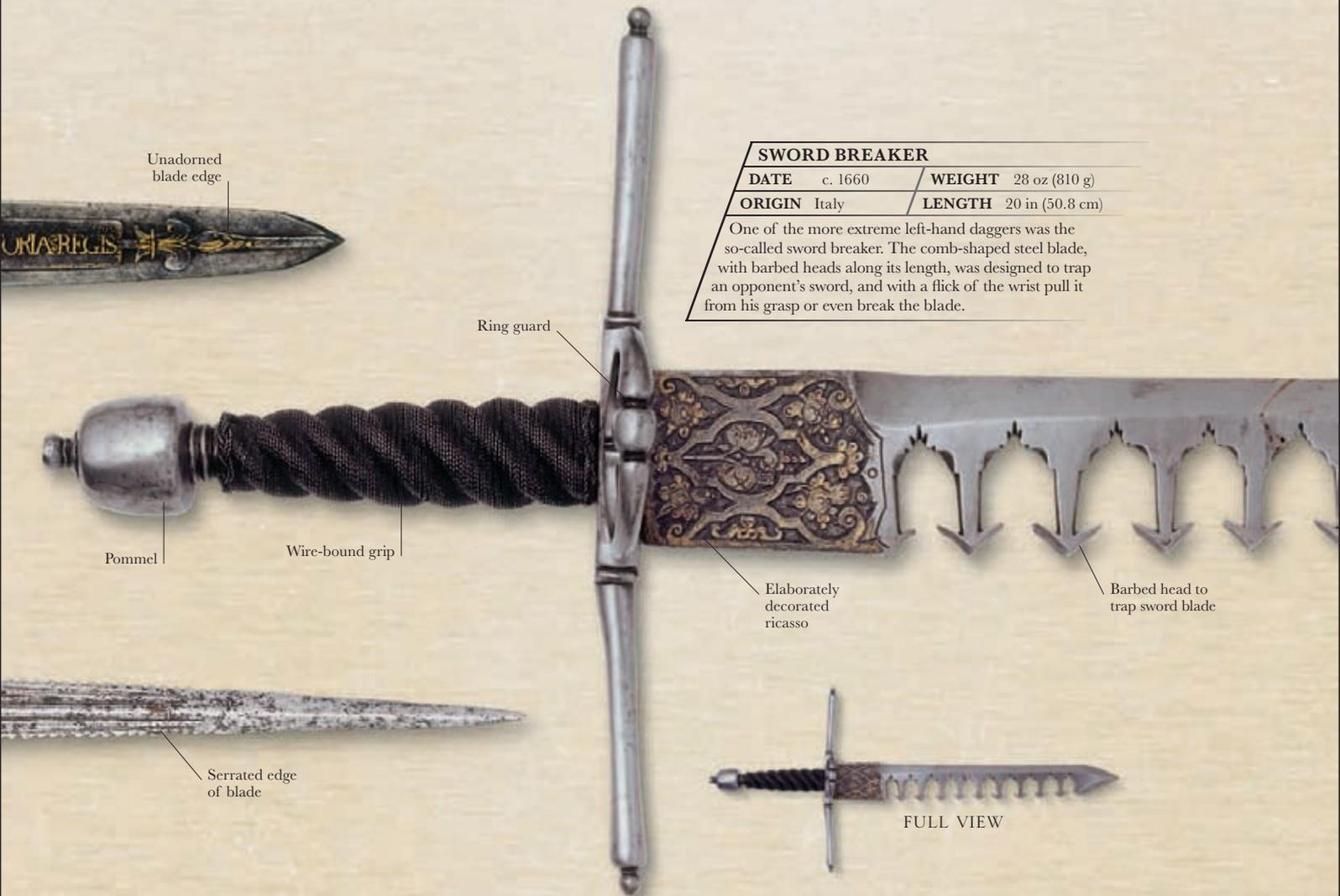
Straight, unadorned quillon

Ring guard

QUILLON DAGGER

DATE	c. 1600	WEIGHT	26 oz (750 g)
ORIGIN	Germany	LENGTH	19½ in (50 cm)

This dagger has straight quillons and a blade with pierced fullers—these served to create a long but lightweight dagger. Knights wore quillon daggers in metal and leather scabbards, hung from their belts.

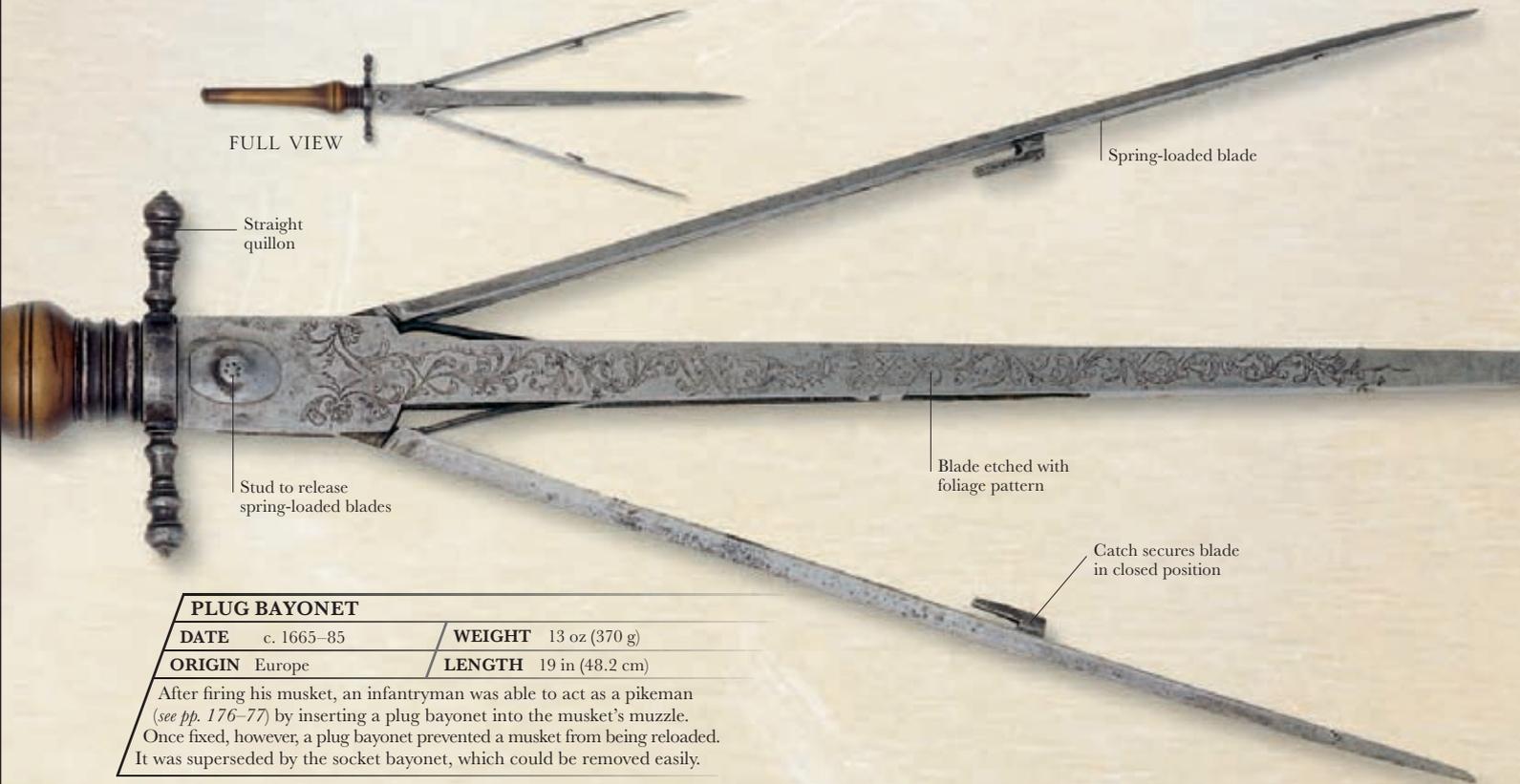


SWORD BREAKER

DATE	c. 1660	WEIGHT	28 oz (810 g)
ORIGIN	Italy	LENGTH	20 in (50.8 cm)

One of the more extreme left-hand daggers was the so-called sword breaker. The comb-shaped steel blade, with barbed heads along its length, was designed to trap an opponent's sword, and with a flick of the wrist pull it from his grasp or even break the blade.

FULL VIEW



FULL VIEW

Spring-loaded blade

Straight quillon

Stud to release spring-loaded blades

Blade etched with foliage pattern

Catch secures blade in closed position

PLUG BAYONET

DATE c. 1665–85	WEIGHT 13 oz (370 g)
ORIGIN Europe	LENGTH 19 in (48.2 cm)

After firing his musket, an infantryman was able to act as a pikeman (see pp. 176–77) by inserting a plug bayonet into the musket's muzzle. Once fixed, however, a plug bayonet prevented a musket from being reloaded. It was superseded by the socket bayonet, which could be removed easily.



Scabbard covered with parchment

Herringbone and checkered ornamentation

Pocket for small knife

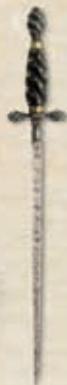
SCABBARD

GUNNER'S STILETTO

DATE	18th century	WEIGHT	6 oz (160 g)
ORIGIN	Italy	LENGTH	13½ in (34 cm)

This specialized version of the stiletto dagger (*p. 161*) was used by artillerymen for a variety of battlefield tasks. These included measuring the bore of the gun and the size of the shot, tearing open cloth or paper cartridges, piercing the cartridge through the touchhole (vent for the fuse), and cleaning out the touchhole after firing.

Decorated grip



FULL VIEW

Three-sided blade with measuring scale

QUILLON DAGGER

DATE	c. 1600	WEIGHT	12 oz (350 g)
ORIGIN	Germany	LENGTH	15¼ in (39 cm)

This weapon is a typical left-hand dagger with medium-length blade, wide, forward-facing quillons, and a ring guard to protect the hand. This dagger's handle is bound with wire to enhance the grip.

Pommel with button terminal

Wire-bound grip

Ring guard

Forward-facing quillon

Ridged blade

FULL VIEW

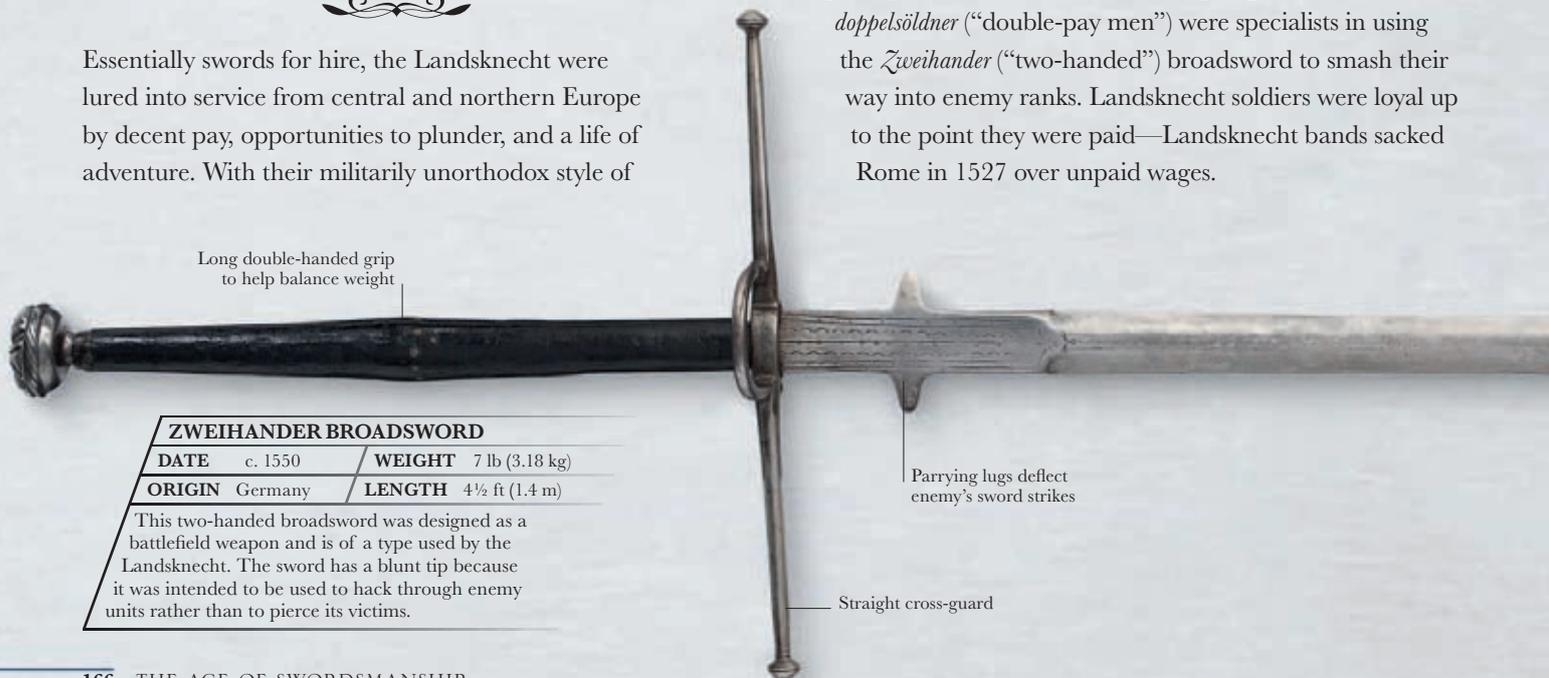
LANDSKNECHT

The Landsknecht (“land servants”) were German-speaking infantry formed under the authority of German Emperor Maximilian I in 1486, in response to threats from French and Burgundian mercenaries and Swiss pikemen.



Essentially swords for hire, the Landsknecht were lured into service from central and northern Europe by decent pay, opportunities to plunder, and a life of adventure. With their militarily unorthodox style of

dress, the Landsknecht mercenaries cut a dash on the battlefield during the 15th and 16th centuries. Yet their flamboyant clothing masked the violent and unpredictable nature of these men. Most Landsknecht were armed with pikes (*pp.* 176–77), which were cheap to purchase, but *doppelsöldner* (“double-pay men”) were specialists in using the *Zweihander* (“two-handed”) broadsword to smash their way into enemy ranks. Landsknecht soldiers were loyal up to the point they were paid—Landsknecht bands sacked Rome in 1527 over unpaid wages.



Long double-handed grip to help balance weight

ZWEIHANDER BROADSWORD

DATE c. 1550 **WEIGHT** 7 lb (3.18 kg)

ORIGIN Germany **LENGTH** 4½ ft (1.4 m)

This two-handed broadsword was designed as a battlefield weapon and is of a type used by the Landsknecht. The sword has a blunt tip because it was intended to be used to hack through enemy units rather than to pierce its victims.

Parrying lugs deflect enemy's sword strikes

Straight cross-guard

“ WE TOOK ROME BY STORM,
PUT OVER 6000 MEN
TO THE SWORD, AND
BURNED DOWN A
GREAT PART OF THE CITY.”

PAUL DOLSTEIN, LANDSKNECHT, ON THE SACK OF ROME, 1527

Blade sharpened on
one edge

FLAMBOYANT WARRIOR

This stained glass panel depicts a standard bearer dressed in the typically florid style of the Landsknecht, including colored hose and a hat crowned with feathers. He carries a two-handed broadsword with forward-curving quillons.



EUROPEAN ONE-HANDED STAFF WEAPONS

Single-handed staff weapons were developed for use by horsemen. These were simple but brutal weapons whose primary role was to fracture plate armor or inflict internal injuries to an opponent. The pick or spike of a war hammer was useful for penetrating gaps in enemy armor, while the flanges, or projections, on mace heads could be sharpened into bladelike edges. A crushing blow from a staff weapon would have dented the joints of an opponent's armor, limiting his ability to move and fight. Despite their clublike nature, many staff weapons were carried by men of high birth and, as a result, were finely crafted and elaborately decorated.

**THE PICK OF A
BATTLE HAMMER COULD
BECOME STUCK FAST IN THE
BODY OF ITS VICTIM.**



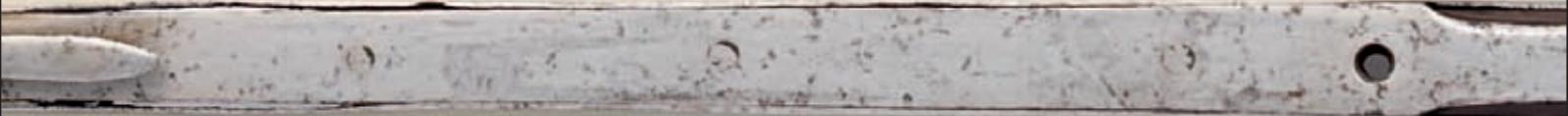


FULL VIEW

HORSEMAN'S HAMMER

DATE	16th century	WEIGHT	11¼ lb (5.4 kg)
ORIGIN	Germany	LENGTH	21½ in (54.6 cm)

This four-sided hammer is counterbalanced by a longer pick that is also four-sided. The square-shaped socket extends into four langets that run down the sides of the wooden shaft. This war hammer would have been part of the armament of a cavalryman.



HORSEMAN'S HAMMER

DATE	16th century	WEIGHT	Head: 29 oz (820 g)
ORIGIN	Europe	LENGTH	Head: 8½ in (21.5 cm)

Popular with cavalrymen for smashing plate armor, war hammers were also used by those fighting on foot in tournaments. During the 16th century, the size of the pick was increased, while the hammer was made smaller. This suggested a more central role for the pick in combat.



FULL VIEW

MACE WITH FLANGED HEAD

DATE	16th century	WEIGHT	3½ lb (1.56 kg)
ORIGIN	Europe	LENGTH	24¾ in (62.9 cm)

From the late 15th century, most maces were made of steel, with a number of flanges on the mace head—seven was a common number. Each flange was attached to a central tubular core by brazing, in which different metal parts were joined together by fusing a layer of brass between the adjoining surfaces.



Steel finial

Flange brazed to central core

MACE WITH CONICAL FINIAL

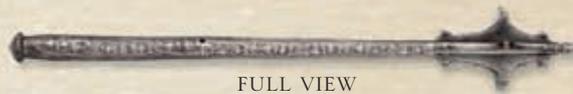
DATE	16th century	WEIGHT	3½ lb (1.56 kg)
ORIGIN	Europe	LENGTH	23 in (60 cm)

Made of steel, this mace has a conical finial fitted above seven flanges, each of which is drawn to a concave-sided point. The shaft is decorated with scrolling vine foliage in shallow relief. The flanged mace was the most common type of mace in use during the 16th century.



Wrist-loop hole

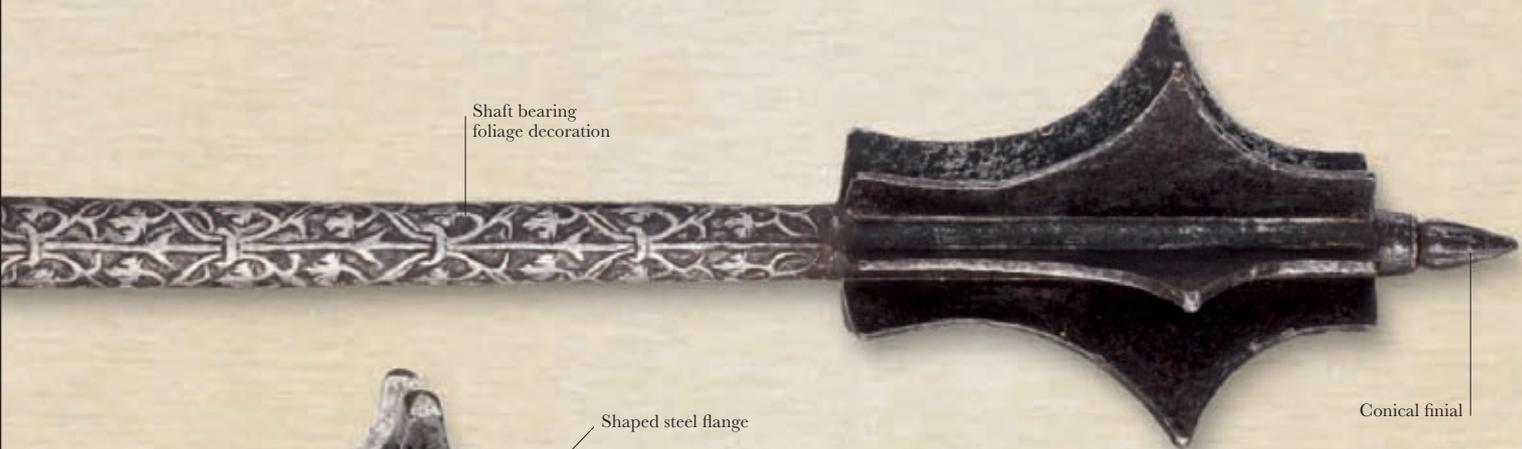
Decorated steel shaft



FULL VIEW

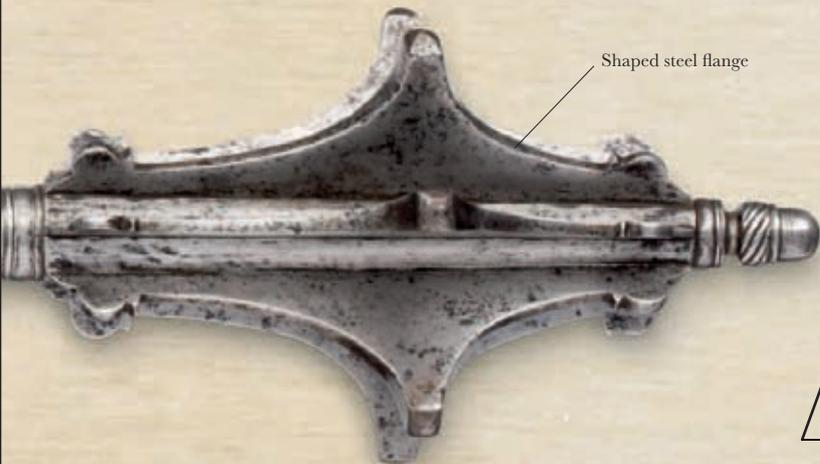


Shaft with black grip



Shaft bearing
foliage decoration

Conical finial



Shaped steel flange

DECORATED MACE

DATE	16th century	WEIGHT	3½ lb (1.56 kg)
ORIGIN	Europe	LENGTH	25 in (63 cm)

This flanged mace is decorated with a foliate pattern along the length of the shaft and is topped by an upper finial (or terminal) in the shape of an acorn. The hole, visible halfway along the steel shaft, is for a wrist loop, especially important for mounted soldiers because the mace could easily be prevented from falling to the ground.

EUROPEAN TWO-HANDED STAFF WEAPONS

Staff weapons, especially when combined with bows, had proved highly effective against cavalry during the Middle Ages. They gave the infantryman the ability to keep the enemy horse and rider at a distance. Few horses had the spirit to surmount a bristling wall of blades, while the length of the staff weapons enabled the infantryman to strike the mounted soldier up in the saddle. In the 16th century they continued to be the foot soldier's most effective weapon. Swiss mercenaries popularized the halberd (*p. 87*), which, in the hands of a strong man, was capable of smashing through plate armor. So was the poleax, the weapon favored by armored knights when fighting on foot. By the early 17th century, these weapons were steadily replaced by the pike (*pp. 176–77*).

POLEAX

DATE 16th century

ORIGIN Germany

LENGTH Axhead: 11 in (28 cm)

Popular in the 15th and 16th centuries with knights fighting on foot, the poleax consisted of an axhead balanced by a hammer or fluke that was topped by a steel spike. All three were useful elements in penetrating plate armor. The weapon's name derives from "poll," the old English name for head.

Axhead

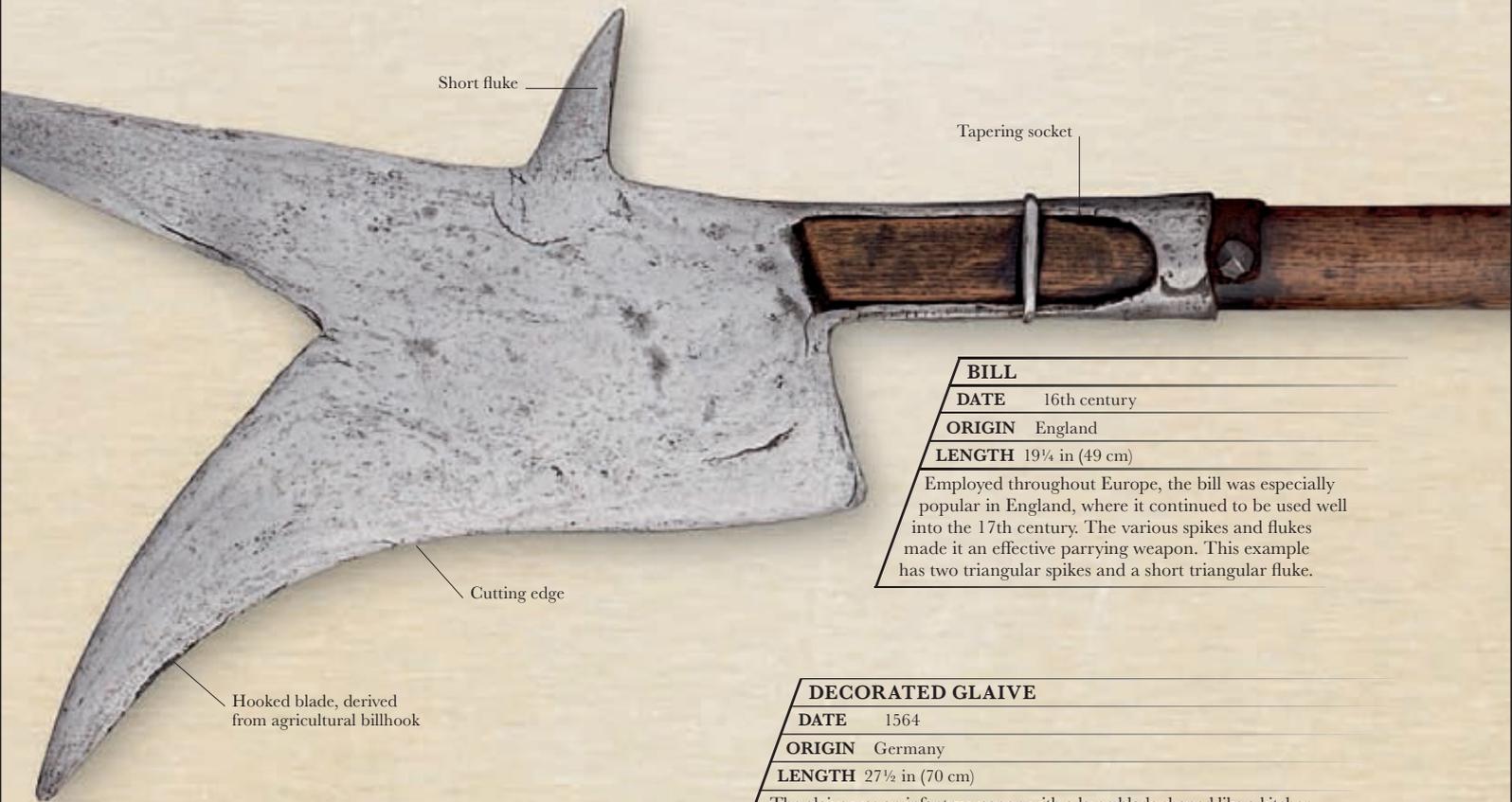
Steel spike

FULL VIEW

Hammer or fluke

Langet protecting wooden shaft

Edged blade



Short fluke

Tapering socket

Cutting edge

Hooked blade, derived from agricultural billhook

BILL

DATE 16th century

ORIGIN England

LENGTH 19¼ in (49 cm)

Employed throughout Europe, the bill was especially popular in England, where it continued to be used well into the 17th century. The various spikes and flukes made it an effective parrying weapon. This example has two triangular spikes and a short triangular fluke.

DECORATED GLAIVE

DATE 1564

ORIGIN Germany

LENGTH 27½ in (70 cm)

The glaive was an infantry weapon with a large blade shaped like a kitchen knife. This weapon has a skillfully etched blade showing the livery badge of Burgundy surmounted by a crown and date. The intertwined double “M” represents the Holy Roman emperor Maximilian and his queen, Maria.

Motto *Deus providebit* means “God will provide”

Intertwined double “M”



Four-sided socket

BARDICHE**DATE** c. 16th century**ORIGIN** Russia**LENGTH** 30¾ in (78 cm)

A popular weapon in Eastern Europe, the bardiche has a distinctive enlarged blade, which is attached to the shaft through a socket, as well as at the bottom of the blade. This weapon has a curved blade that is elaborately fashioned, which suggests a ceremonial role.

Axhead socket

Blade attached to shaft

Decorated blade

FULL VIEW

One of four langets

**THE BRUTAL HOOKED FLUKE
OF THE HALBERD WAS SUNK INTO A CAVALRYMAN'S ARMOR
AND USED TO DRAG HIM TO THE GROUND.**



Main spike

Wooden shaft

Studded iron spikes

MORNING STAR

DATE 17th century

ORIGIN Europe

LENGTH 23½ in (60 cm)

A peasant weapon common in Europe, the morning star consists of a head of wood studded with iron spikes. It was cheap and easy to manufacture, and was useful against unarmored opponents. Also known as “holy water sprinklers,” most such weapons have a more bulbous head than this example.



Hooked fluke

Spike with medial ridge

Decorated with the arms of Saxony

CEREMONIAL HALBERD

DATE c. 1580–1620

ORIGIN Germany

LENGTH Head: 22½ in (57 cm)

Carried by the personal guard of the Elector of Saxony (in present-day Germany), this finely crafted and elaborately decorated halberd is indicative of the movement of staff weapons away from the battlefield to the court, where they were used in a ceremonial capacity.

PIKEMAN

Pikemen had a profound effect on warfare in Europe from the 14th to the 18th century. The pike weapon reached up to 18 ft (5 m) in length—much longer than a traditional spear—and was capped by a hefty spearhead. When used on its own, the pike was a cumbersome, heavy weapon, but used in massed ranks, it revolutionized warfare. Pike-armed infantry, known as pikemen, were usually formed into squares—solid blocks of up to 100 men each, arranged in a 10-by-10 rank configuration. These blocks bristled with pikes. When attacking enemy ranks,

the pikemen would advance, at first with the pikes held high, then with the spearheads lowered, creating a layered wall of blades for the final offensive thrust. If they were surrounded by enemy cavalry, pikemen presented their pikes in a 360-degree pattern to keep the mounted troops at bay. Swiss and German pikemen were, for a time, almost invincible in battle, but with the rise of the use of firearms and the advent of the bayonet, the pike as an infantry weapon had almost become obsolete by the end of the 17th century.

PIKE

DATE c. 15th century

WEIGHT c. 11 lb (5 kg)

ORIGIN Europe

LENGTH c. 18 ft (5 m)

This pike shows the essential simplicity of the weapon. The spearhead is of a double-edged, leaf-style design, and is riveted onto the long wooden shaft. If the pole broke or became too weak, the spearhead was easily detached and could then be attached to another pole.

Simple
wooden shaft

THE HEEL OF THE PIKE COULD BE STUCK INTO THE GROUND, FORMING A SOLID KILLING WEAPON AGAINST ATTACKING CAVALRY.

Rivets attach
spearhead to shaft

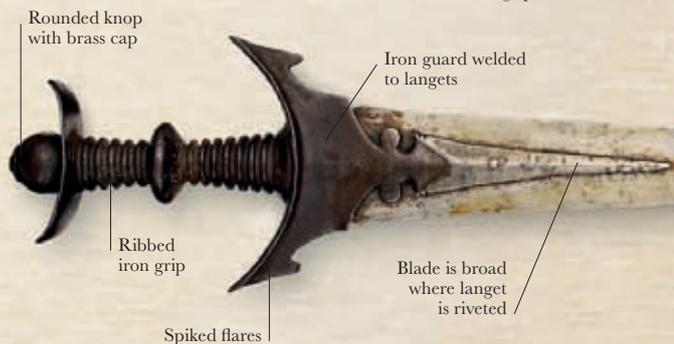
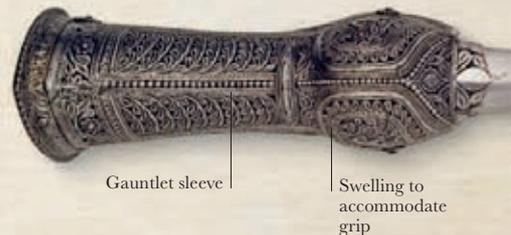
THIRTY YEARS' WAR

The battle of White Mountain in 1620 was an early engagement in the Thirty Years' War, which left few regions of central and Western Europe untouched. Here, the Bohemian Protestants are defeated by the army of the Holy Roman Empire using impressive pike formations and muskets.



INDIAN AND SRI LANKAN SWORDS

The establishment of the Mogul empire in India in the 16th century brought with it the fine curved swords found throughout India, Sri Lanka, and the Islamic world. These *talwars* and *shamshirs* were superb cutting instruments that achieved near perfection in form and function. Although many Hindu princes adopted the *talwar*, the traditional straight-bladed Hindu *khanda* continued to be made. By the 18th century, many sword blades were imported from Europe, where they were being manufactured in Indian designs.





Solingen maker's mark

GAUNTLET SWORD

DATE	17th century	WEIGHT	c. 29 oz (800 g)
ORIGIN	Germany/India	LENGTH	c. 3½ ft (1.12 m)

This 17th-century Indian gauntlet sword was a fearsome thrusting weapon. The gauntlet sleeve provided excellent protection to the hand and the wrist. The blade was made in Solingen, a sword-producing center in Germany. Good-quality European blades were often used in Asia, and vice versa.



Double-edged blade

MALABAR COAST SWORD

DATE	18th century	WEIGHT	23 oz (650 g)
ORIGIN	Malabar, India	LENGTH	33 in (83 cm)

This straight, double-edged sword from southern India has a ribbed iron grip and a curved guard and pommel plate. Spiked flares on the sides of the guard prevented the sword from being grabbed from the swordsman's hand. Langets were riveted to the blade to strengthen its attachment to the hilt.

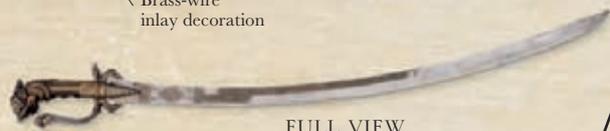


Brass-wire inlay decoration

KASTANE

DATE	Hilt: 17th century	WEIGHT	20 oz (550 g)
ORIGIN	Sri Lanka	LENGTH	36 in (92 cm)

The *kastane*, the characteristic sword of Sri Lanka, had a short, curved blade, usually imported, and a hilt carved with fantastical decorations. Its value as a work of craftsmanship equaled its effectiveness as a weapon. The example shown here dates from the time of the Portuguese occupation of Sri Lanka.



FULL VIEW



Ivory hilt with bulbous pommel

Langet

Quillon ends in a petaled dome

INDIAN CAVALRY
WOULD CIRCLE THEIR ENEMIES,
WEARING THEM OUT UNTIL
THE RIGHT MOMENT
TO ATTACK WITH THEIR SWORDS.



Short quillon

Ivory grip





Curved steel blade

TALWAR

DATE	Early 17th century	WEIGHT	2¼ lb (1.04 kg)
ORIGIN	Mogul India	LENGTH	37¼ in (95.7 cm)

The *talwar*, of Persian origin, was the quintessential sword of Mogul India. Many were works of outstanding craftsmanship. The curve of this *talwar* is more shallow than those of swords produced later in the Mogul period.



Deeply curved, tapering blade

SHAMSHIR

DATE	Early 19th century	WEIGHT	30 oz (860 g)
ORIGIN	Lucknow, India	LENGTH	37 in (93 cm)

The *shamskir* is the sword known to Europeans as the scimitar. It came to India in the 16th century from Persia. This example follows the typical Persian design, with its deeply curved, single-edged, tapering blade. In combat, it was superbly suited to slashing, but less effective for thrusting.

SCABBARD



Short quillon with large knob

FULL VIEW

Knuckle guard ends in an animal-head finial

Wooden scabbard covered with red velvet



Broad, curved blade

Elliptical pommel plate

Hilt made of horn

AYUDHA KATTI

DATE 18th century

WEIGHT 2½ lb (1.15 kg)

ORIGIN Coorg, India

LENGTH 23½ in (59.5 cm)

Indigenous to Mysore, Coorg, and the Malabar coast of southwestern India, the *ayudha katti* developed from an implement used to cut through dense undergrowth. Its blade, like that of the Turkish *yataghan* and northern Indian *sosun pattah*, is related to the ancient Greek *kopis* blade (p. 29).

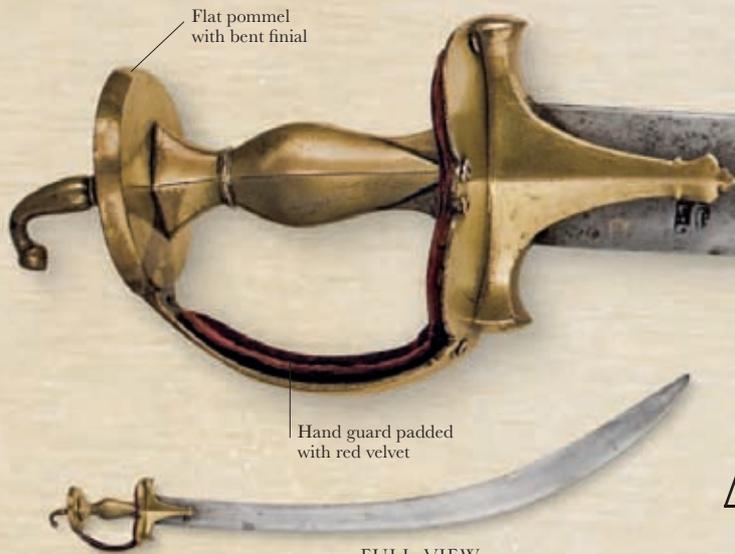


SCABBARD

18TH CENTURY TALWAR

DATE	c. late 18th century	WEIGHT	32 oz (910 g)
ORIGIN	Lahore	LENGTH	23½ in (59.5 cm)

Probably made in Lahore, formerly in India and now in present-day Pakistan, this *talwar* with a Persian blade bears a bilingual inscription in Hindi and Urdu inside the knuckle guard. The hilt is decorated with *kofrigari*—steel inlaid with gold—which was a form of ornamentation found on many Indian swords.



Flat pommel with bent finial

Hand guard padded with red velvet

FULL VIEW

SOUTH INDIAN TALWAR

DATE	Late 18th century	WEIGHT	3 lb (1.38 kg)
ORIGIN	Mysore, India	LENGTH	35 in (88.3 cm)

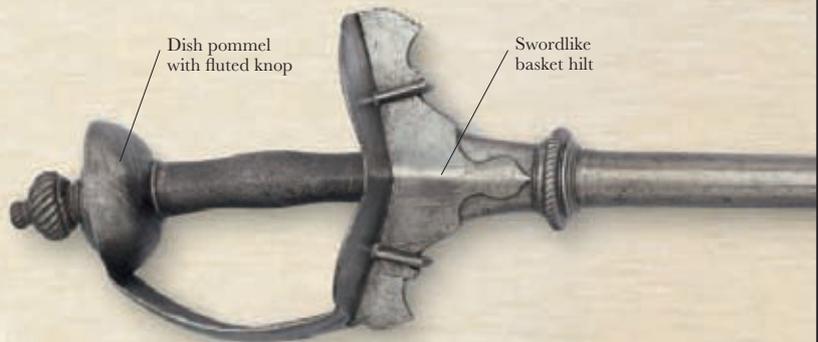
This sword was in use in Mysore, southern India, at the time of the wars between the British East India Company and Mysore's ruler, Tipu Sultan. British officers often noted the superior quality of such swords to European blades. The deeply curved blade is a traditional Indian style.

INDIAN STAFF WEAPONS

Until the 17th century, the development of staff weapons in the Indian subcontinent was broadly similar to their evolution in Europe, although local Hindu traditions and the influence of Muslim invaders ensured notable differences in design and decoration. Despite the adoption of Western-style firearms by Indian rulers, maces and axes were actively used by Indian armies long after they had become obsolete in Europe. This was largely because Indian warriors continued to wear armor. At close quarters, a staff weapon was often more effective than a musket and bayonet or rifle.



Plain knob



Dish pommel with fluted knob

Swordlike basket hilt



Shaft and blade have sheet-silver decoration

Tubular iron shaft contains thin knife

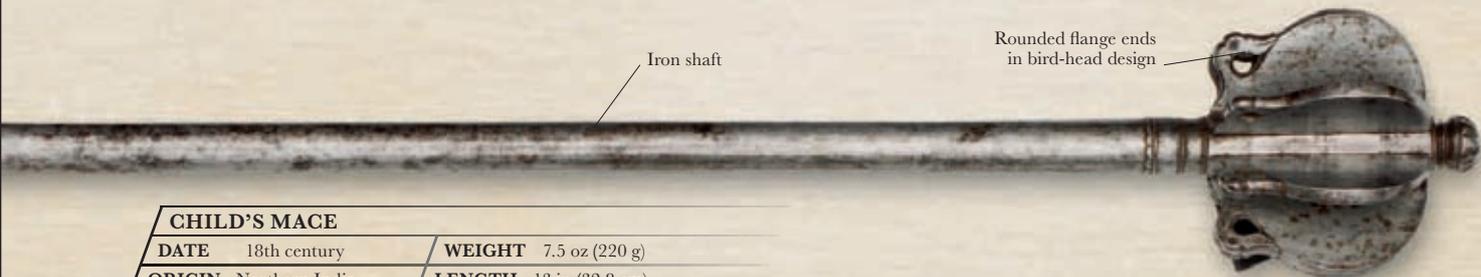


FULL VIEW

TABAR

DATE	18th century	WEIGHT	2¼ lb (1.29 kg)
ORIGIN	Sindh	LENGTH	28 in (71.3 cm)

The saddle ax, or *tabar*, was a standard weapon of Indian armies. This example is from Sindh, in what is now Pakistan. The curved cutting edge concentrated the weight of a blow at a narrow point of impact. Unscrewing the knob at the base of the weapon reveals a slim knife, 21¼ in (54 cm) long, inside the hollow shaft.

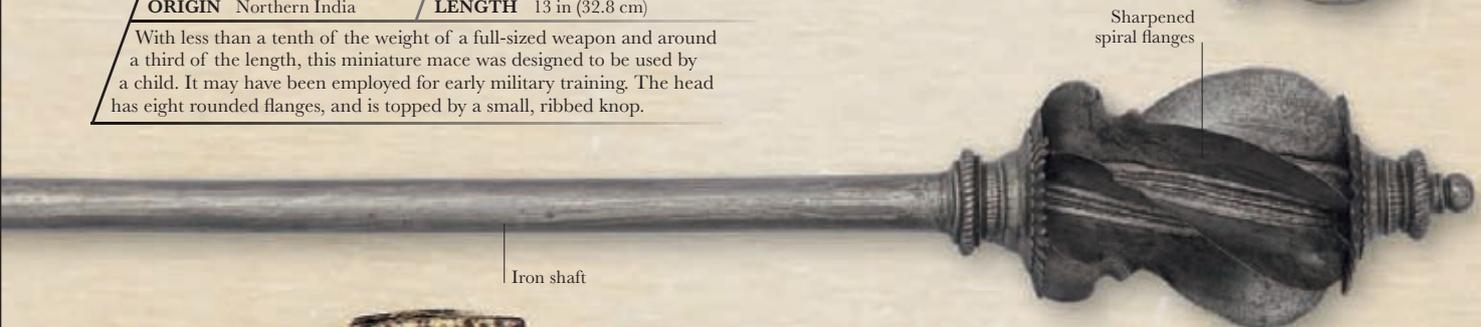


CHILD'S MACE

DATE 18th century / **WEIGHT** 7.5 oz (220 g)

ORIGIN Northern India / **LENGTH** 13 in (32.8 cm)

With less than a tenth of the weight of a full-sized weapon and around a third of the length, this miniature mace was designed to be used by a child. It may have been employed for early military training. The head has eight rounded flanges, and is topped by a small, ribbed knob.



FLANGED MACE

DATE 18th century / **WEIGHT** 5½ lb (2.55 kg)

ORIGIN Rajasthan, India / **LENGTH** 33¼ in (84.2 cm)

This mace, or *gorz*, has a knuckle guard in the Hindu basket style, as often seen on *khanda* swords (p. 289). The spiral flanges on the head are sharpened to a cutting edge. The flanges focused the impact of a blow from this heavy weapon, making it effective even against armor.





Steel head set
with spikes



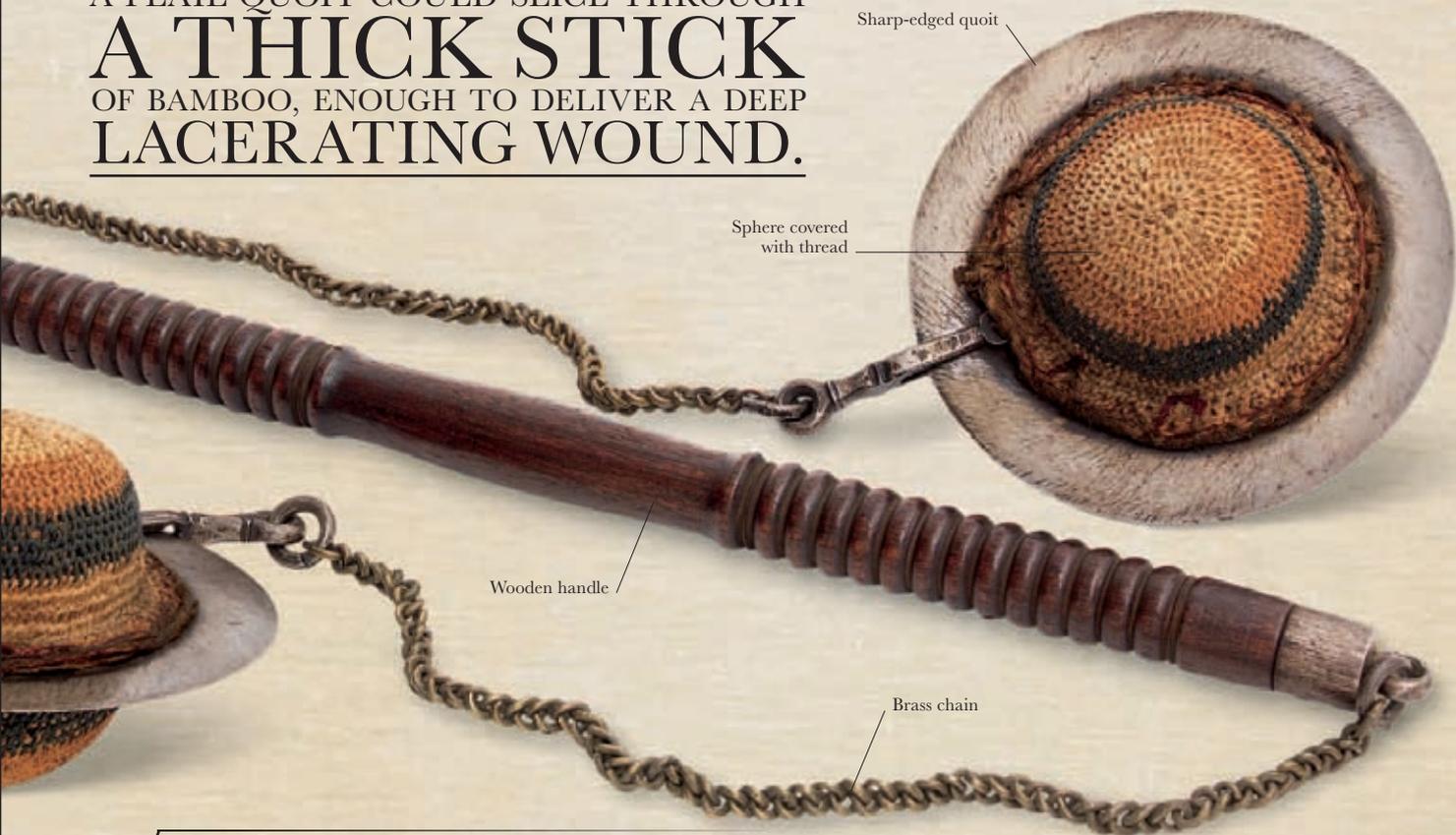
FULL
VIEW

SPIKED MACE

DATE	Early 18th century	WEIGHT	5½ lb (2.5 kg)
ORIGIN	Delhi, India	LENGTH	34 in (85 cm)

This mace resembles a more refined version of the “morning star” maces of 16th-century Europe. When wielded, the spikes got embedded in the enemy warrior’s armor, preventing him from deflecting blows. With such fine decoration, it was designed as much to show its owner’s wealth as for combat.

A FLAIL QUIT COULD SLICE THROUGH
A THICK STICK
OF BAMBOO, ENOUGH TO DELIVER A DEEP
LACERATING WOUND.



FLAIL WITH QUITTS

DATE 18th century	WEIGHT 2¼ lb (1.05 kg)
ORIGIN Gujarat, India	LENGTH Handle: 18½ in (46.8 cm)

This flail, or *cumberjung*, was made in Gujarat when the area was under the rule of the Hindu Maratha Empire. The handle was whirled to send the sharp-edged quoits (flattened metal rings) scything through the air. A fearsome weapon in close combat, it required considerable skill to use it effectively.

CUTTING AND THRUSTING

During the 18th and 19th centuries, there was much argument in military circles over the relative merits of cutting swords as opposed to thrusting blades in warfare and self-defense.



Most swords and daggers could be used for both cutting and thrusting to some degree, such as the Turkish dagger shown below. Nevertheless, specialized weapons remained popular throughout the world. Sabers (*pp. 130–31*) and *katanas*

(*pp. 190–91*) had long cutting edges that were perfect for slashing attacks, while rapiers (*pp. 138–41*) and smallswords (*pp. 142–45*) were designed primarily to injure with the point of the blade. In an 18th-century treatise on defense, Captain John Godfrey recommended that slashing swords (which he called backwords) be used in battle, where there were many targets to attack, while smallswords be confined to duels and civilian use. Godfrey proved to be correct, and, by the 19th century, the military had indeed gravitated toward the cutting saber, while the rapierlike sword was largely confined to civilian and sporting use.

TURKISH DAGGER

DATE c. 19th century	WEIGHT c. 11 oz (300 g)
ORIGIN Turkey	LENGTH c. 12 in (30.5 cm)

This highly ornate Turkish dagger is a cut-and-thrust weapon, with a curved, double-edged blade tapering to a very fine point. The blade has cutaway sections for decoration, while the green agate handle is decorated with garnets.

Handle of dark green agate

Garnet embellishment



“ TAKE NOTICE OF THE SUPERIORITY
THE BACK-SWORD
HAS OVER THE SMALL,
IN POINT OF USE. ”

CAPTAIN JOHN GODFREY, *A TREATISE UPON THE
USEFUL SCIENCE OF DEFENCE*, 1747

CLOSE-QUARTERS COMBAT

Daggers, aside from the very slender stiletto type, are the archetypal cut-and-thrust weapons, usually designed for both piercing and laceration. In this Mogul painting from India, a warrior makes a stabbing attack on his opponent, using the point of his curved dagger.

Ornate blade with
gold inlay work



JAPANESE SAMURAI WEAPONS

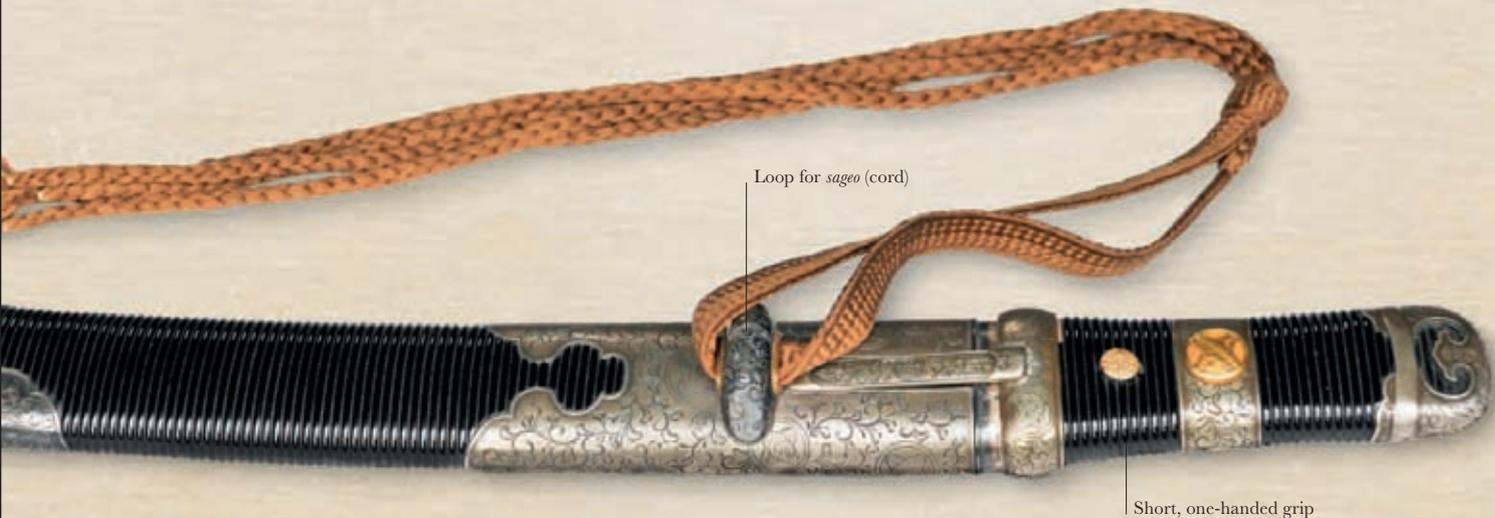
Japanese sword blades are considered to be among the finest ever made. Their success was due to the combination of a hard cutting edge with a softer, more resilient core and back. After a complex process creating a soft core enfolded in hard outer layers of steel, the swordsmith covered the blade in clay, leaving only a thin layer over what was to become the cutting edge. During quenching (*pp.* 98–99), the edge cools rapidly, becoming very hard, while the back cools more slowly, remaining less hard but more flexible. The mountings for blades developed their own aesthetic finesse. In the 15th century, for example, the manufacture of *tsuba* (guards) became a separate profession, and these are now collectors' items in their own right.

“
FIRST OF ALL, WHEN YOU LIFT UP THE SWORD,
WHATEVER THE SITUATION YOUR INTENTION IS TO
KILL THE OPPONENT.

SAMURAI MIYAMOTO MUSASHI (c. 1584–1645), *THE BOOK OF FIVE RINGS*, c. 1643

Engraved metal
sayajira (sheath cap)





TANTO IN SCABBARD

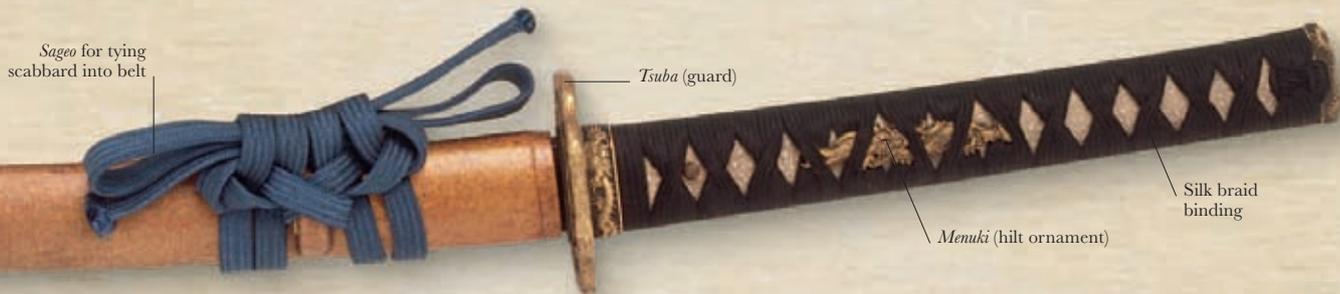
DATE c. 18th century	WEIGHT 19 oz (550 g)
ORIGIN Japan	LENGTH c. 16 in (40 cm)

The *tanto* was a short sword that came into use during the Heian period (794–1185), and its popularity waxed and waned until the 20th century. This weapon is encased in a black lacquered sheath, and it was not uncommon to see slim *kogatana* knives stored in a sheath pocket.

KATANA IN SCABBARD

DATE 18th century	WEIGHT 24 oz (680 g)
ORIGIN Japan	LENGTH 27½ in (69.8 cm)

This long sword, or *katana*, forms a *daisho* (combination) with a matching short sword, or *wakazashi* (pp. 198–99). During the the Edo regime, the *katana* was exclusively worn by the samurai, while merchants and townsmen were allowed to carry a *wakazashi*. In combat, a samurai typically held the *katana* in a two-handed grip, which the *tsuka* (handle) easily accommodated.



FAN DAGGER

DATE c. 17th century	WEIGHT c. 11 oz (300 g)
ORIGIN Japan	LENGTH c. 10¼ in (25 cm)

Fans were customary items around the Japanese court, so they also provided an ideal disguise for a self-defense weapon, such as the dagger shown here. The fan slats are actually a solid scabbard, holding a single-edged steel dagger. The hilt of the dagger is formed by the ridges of the fake fan slats. The loop at the end acted as a fastening to secure the blade in the scabbard.



FULL VIEW

Single-edged blade



Scabbard disguised as folded fan

SCABBARD

Loop-fastening held blade in place

FLUTE KNIFE

DATE c. 16th century	WEIGHT c. 9 oz (250 g)
ORIGIN Japan	LENGTH c. 12 in (30.5 cm)

In Japan, bamboo flutes were occasionally used as stick-style weapons, but this item is far more elaborate. The intricately made metal casing, crafted to look exactly like a real bamboo flute, contains a double-edged dagger. The fake “mouthpiece” formed the hilt, and the main body of the “flute” was a sheath to conceal the blade.



SHEATH



FULL VIEW

POUCH DAGGER**DATE** c. 16th century / **WEIGHT** c. 9 oz (250 g)**ORIGIN** Japan / **LENGTH** c. 8 in (20 cm)

Tobacco pouches were common articles in early modern Japan, generally worn by samurai on the waist and fastened with a *netsuke* (toggle) under the sash. They were natural places to conceal weapons. Here the *netsuke* acts as a scabbard for a simple dagger, fitted with a lacquered wood handle.



Plain, single-edged
steel blade



Pouch toggle acts
as dagger scabbard



SCABBARD

Lacquered
wooden handle



Section around mouthpiece
forms dagger hilt



Tobacco pouch





Rayskin covering
on hilt

Menuki

GUNTO IN SCABBARD

DATE	1933	WEIGHT	26 oz (720 g)
ORIGIN	Japan	LENGTH	27 in (68.9 cm)

During the period of militarism in the 1930s, the Japanese adopted a new style of sword for army officers. Known as *guntō*, it was based on the traditional *tachi* (below). Most *guntō*s were equipped with a mass-produced blade, but the mounting could be attached to a traditional blade.



Silk braid binding

Kashira (pommel)

Menuki

Tsuba



Saya (scabbard)

Syajira (scabbard tip)

“
IF AN ADVERSARY IS POSITIONED
SUCH THAT THE TIP OF HIS SWORD IS FACING YOU,
STRIKE AS HE RAISES IT.”

MIYAMOTO MUSASHI, *THE BOOK OF FIVE RINGS*, c. 1645



Semegane
(saya ring)

Sageo

TACHI IN GOLD SCABBARD

DATE	Late 18th century	WEIGHT	24 oz (680 g)
ORIGIN	Japan	LENGTH	28¼ in (71.75 cm)

The blade of a *tachi* was traditionally over 24 in (60 cm) in length, although it was shorter than the *nodachi* field sword, which a samurai slung over his shoulder. *Tachi* hilts were equipped with a traditionally shaped *kashira* (pommel) that wrapped around the end.



Hole for *mekugi* (peg),
which joins hilt to tang

WAKAZASHI

DATE	17th century	WEIGHT	15 oz (420 g)
ORIGIN	Japan	LENGTH	19 in (48.5 cm)

The *wakazashi* was a samurai's constant companion, worn from waking until sleeping, and even kept nearby during the night. In addition to serving as an additional fighting sword to the *katana* and as a sidearm, it was often the weapon used by the samurai to perform ritual suicide (*seppuku*), by plunging it into the abdomen.



Pocket for *kogatana*
(small blade)

Sageo



ORNATE WAKAZASHI IN SCABBARD

DATE	c. 18th century	WEIGHT	26 oz (420 g)
ORIGIN	Japan	LENGTH	20 in (50 cm)

This modern-day replica of the *wakazashi* has been lavishly mounted. The real weapon would almost certainly have been worn on ceremonial occasions as a display of status. The sides of the ornate lacquered scabbard carry the *kogatana* and *kogai* (hair pin) associated with the *wakazashi*.

Sageo



Kissaki (point)

Black lacquer coating

SCABBARD

Habaki (collar)

Kogatana in pocket
on side of scabbard

Hole in guard for
kogatana to pass through

WAKAZASHI SWORD

The *wakazashi* swords in this section are of a style popular during the Edo period in Japan (1603–1876). A *wakazashi* might have been worn by a samurai when in civilian dress, as an accompaniment to his *katana*, or on its own by rich merchants or townsmen. When indoors, a samurai would leave the *katana* by the door, but would still wear the *wakazashi*. The sword's mounting (hilt and guard) was a separate piece that was attached to the blade. The following pages show the constituent parts of both the blade and the mounting. A lavish mounting was a visible symbol of the wearer's wealth. A well-off individual would have had several mountings for a single blade, choosing the most suitable one for a given occasion.



Tsuka (handle)

Kashira
(pommel)

SAYA (SCABBARD)

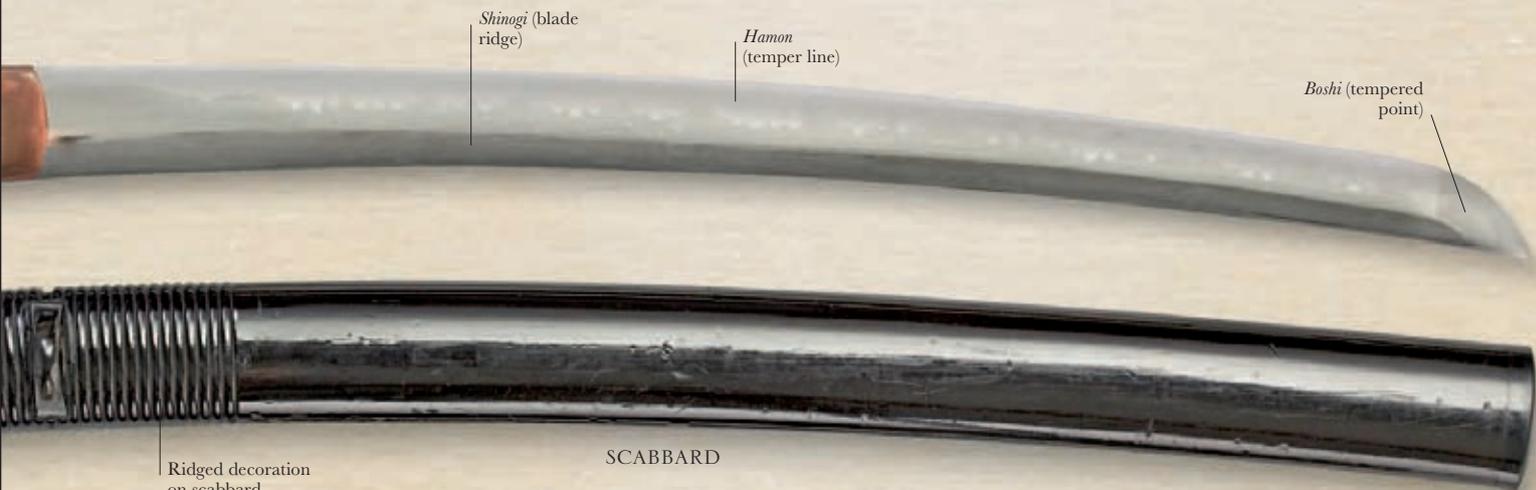


Yokote (sharp, hard
area of blade)

Shinogi (blade
ridge)

Mune (back of blade)

Hamon
(temper line)



Shinogi (blade ridge)

Hamon (temper line)

Boshi (tempered point)

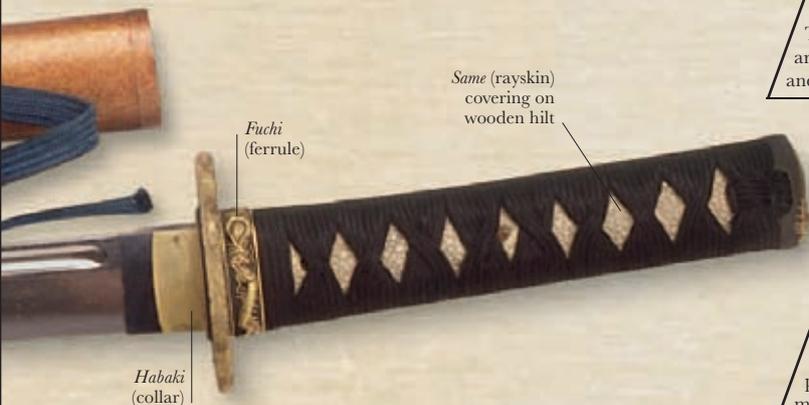
Ridged decoration on scabbard

SCABBARD

WAKAZASHI SWORD

DATE	c. 17th century	WEIGHT	35 oz (970 g)
ORIGIN	Japan	LENGTH	18½ in (46.8 cm)

The blade of this *wakazashi* was made by the samurai Seshu ju Nagatsuna. Japanese blades were distinguished by details of their shape and *hamon*. The latter is a line of bright steel between the covered and uncovered areas of the blade during the tempering process—the technique of heating and cooling the metal to enhance its consistency and strength.



Same (rayskin) covering on wooden hilt

Fuchi (ferrule)

Habaki (collar)

WAKAZASHI FROM A DAISHO

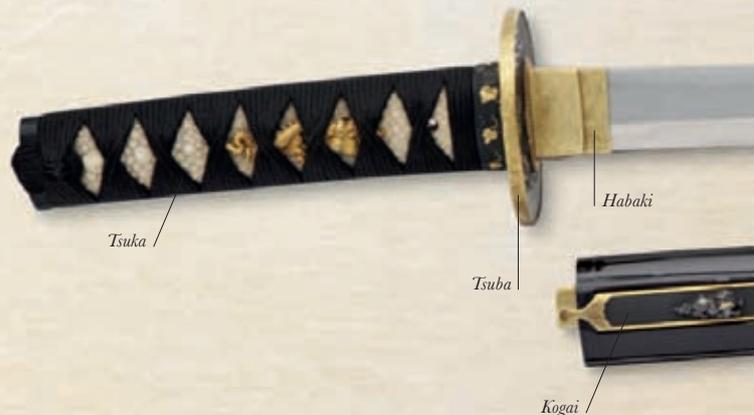
DATE	18th century	WEIGHT	20 oz (550 g)
ORIGIN	Japan	LENGTH	19¼ in (50 cm)

The custom for a samurai to wear two swords, the long *katana* and the shorter *wakazashi*, was established in the 16th century. In the Edo period, a samurai sometimes wore a *wakazashi* and a *katana* with matching mountings on hilts and scabbards, a combination known as a *daisho*. This *wakazashi* forms a *daisho* with the *katana* shown on pp. 190–91.

WAKAZASHI

DATE	17th century	WEIGHT	15 oz (420 g)
ORIGIN	Japan	LENGTH	19 in (48 cm)

The complete *wakazashi* sword shown here is a fine example of the typical samurai side arm. Light and perfectly balanced—the point of balance was just in front of the *tsuba* (guard)—it was a useful weapon for both cutting and thrusting. A *kogai*, or hair pin, is held in a special fitting on the *saya* (scabbard), which also housed a *kogatana*, or small blade. The various components of a *wakazashi* are shown here in close-up on pp. 202–03.



Tsuka

Habaki

Tsuba

Kogai

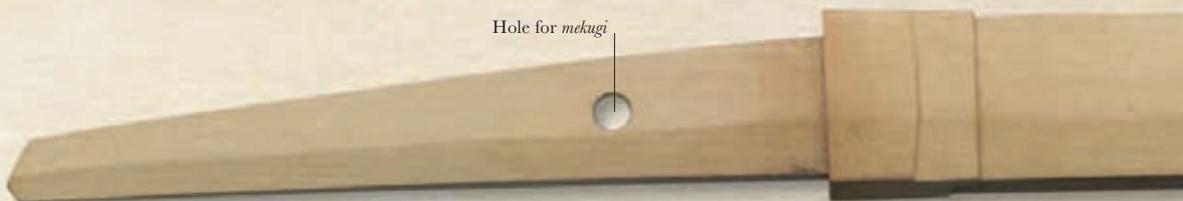
MEKUGI

The *mekugi* is a small peg that passed through a hole in the hilt and a corresponding hole in the *nakago* (tang) of the blade, securing the hilt to the tang. The *mekugi* was usually made of bamboo, but occasionally of horn or ivory.



SUNAGI

When it was not attached to a blade, the mounting of the sword was assembled on a wooden copy of a blade and tang called a *sunagi*. Separated from its mounting, the blade was stored in a wooden scabbard with a plain wooden grip called a *shirasaya*.



Hole for mekugi

BLADE

Making the hard, sharp edge and softer, resilient core and back of the blade was a complex, skilled operation. Swordsmiths often marked the tang of the *wakazashi* with their signature; this blade is signed by Tadahiro of Hizen province on Kyushu island.



Nakago (tang) features the swordsmith's signature

Hole for mekugi

Hamachi (edge notch)

Munemachi (back notch)



Kissaki

SCABBARD

Hamon



Kashira (pommel)

Rayskin covering

Silk braid

Menuki

Hole for
mekugi

Fuchi (hilt collar)

TSUKA

The *tsuka*, or hilt, was made of magnolia wood. It was grooved on the inside to fit the tapering shape of the tang exactly. The rayskin covering was valuable; the lozenge-shaped openings in the silk braid allow it to be seen. The *menuki* ornaments were not just decorative, but also helped in enhancing the wielder's grip on the sword.



HABAKI

The *habaki*, a part of the blade rather than the mounting, slid over the tang and butted up against the blade notches.



Hole for *kogatana*

Hole for tang

SEPPA

Hole for *kogai*

TSUBA

Hole for tang

TSUBA AND SEPPA

The *tsuba*, or metal guard, had a central hole for the tang, flanked by holes for the *kogatana* and *kogai*. *Tsuba* were decorated with gold or silver inlay. *Seppa*, or spacers, made of copper fit onto each side of the guard.

Ear cleaner

SAYA

Like the hilt, the *saya* (scabbard) was made of magnolia wood. It was lacquered to protect it from weathering. The *sageo*, a length of strong braid, attached the scabbard to the owner's belt. Pockets on opposite sides of the scabbard held a *kogatana* and a *kogai*.

Sageo (cord for tying scabbard to belt)

Kozuka (decorated hilt)



Kogatana
(small blade)

KOGATANA

The small knife, carried in one of the scabbard's pockets, was known either as a *kogatana*, after its blade, or as a *kozuka*, after its hilt. It was an all-purpose implement, more likely to be used as a letter opener than as a weapon.

Handle decoration matches *kozuka*

Thin end inserted into hair



KOGAI

The *kogai*, often slipped into a pocket on the *wakazashi* scabbard, was primarily an implement to arrange a samurai's hair. A knob on the end of the handle was used to clean out earwax.

WARRIOR OF THE SWORD

SAMURAI

A martial elite of Japan from the medieval period to the 17th century, the samurai were mounted armored warriors known for their skills with the sword and spear. By the 12th century, they had effectively become Japan's ruling class. Although we have come to identify the samurai mainly with swords, between the 11th and 14th centuries, the bow-and-arrow was their principal weapon. Later, improvements in sword making made the *katana* and *wakazashi* the preferred weapons of combat.



Wearing an elaborate suit of armor, the samurai was a terrifying battlefield warrior. He would often kill an enemy, cut off his head, wash it, and mount it on a spike. Fierce and bloodthirsty, he was revered for his skill in swordfighting.

TOSEI GUSOKU

DATE 16th century

ORIGIN Japan

The *tosei gusoku* was a light samurai body armor made from bamboo, cloth, and metal. Introduced during the 16th century, it was lighter than the lacquered metal armor used during the medieval period. The helmet was usually adorned with antlers or buffalo horns.





Ressai men or “furious power” face mask

Sode (shoulder defense)

Kote (arm defense)

Kusazuri (skirt protecting thighs)

Sunete (greaves)

FULL ARMOR

DRESSED TO KILL

A painted mural of the battle of Osaka (1615) shows samurai warriors carrying a variety of traditional weapons—swords, spears, and bows—and wearing the *tosei gusoku*. Osaka Castle fell to the warriors of Tokugawa Ieyasu, who unified Japan under his rule.



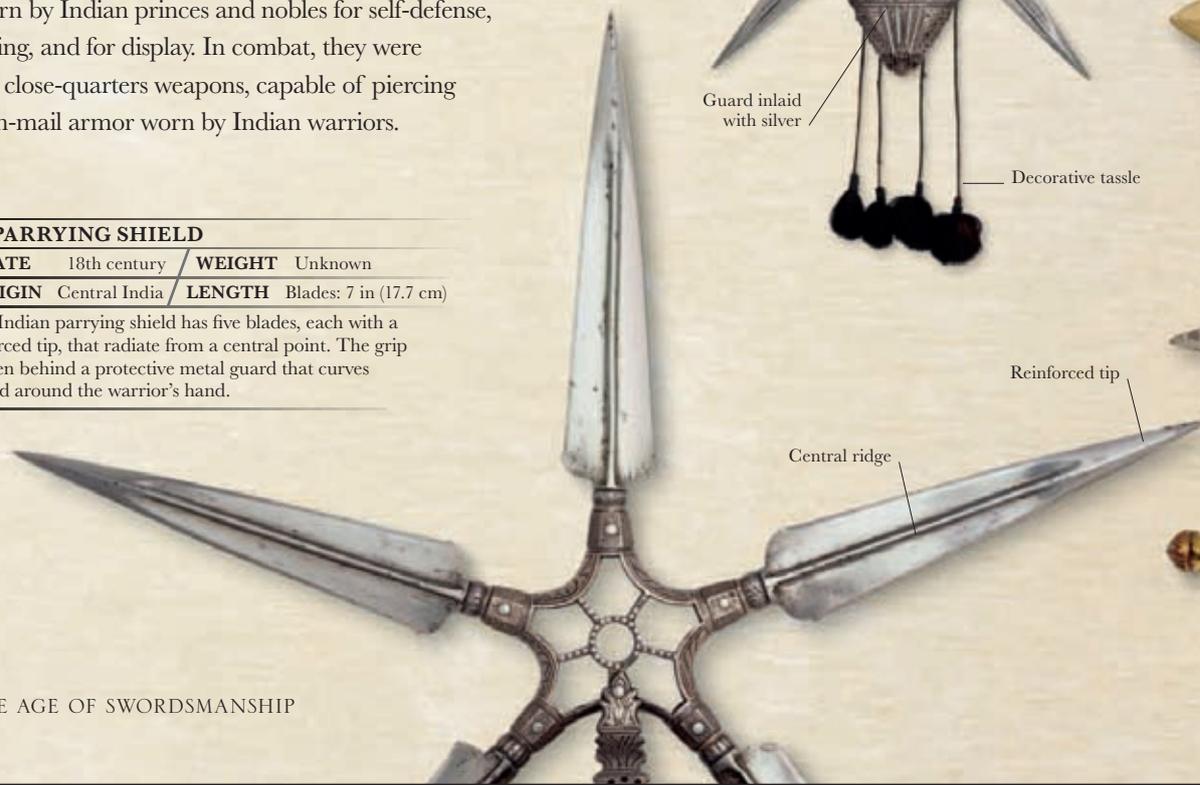
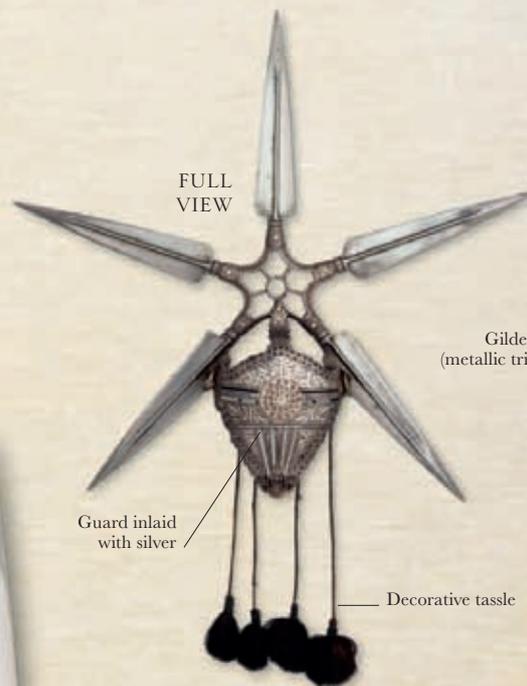
ASIAN DAGGERS

From the 16th to the early 18th century, when most of India was ruled by the Mogul Empire, the daggers from the Indian subcontinent were notable for their high-quality metalwork, ornamentation, and distinctive forms. Some daggers, such as the *kard*, were Islamic imports; others, including the *katar*, had specifically Indian roots. Daggers were worn by Indian princes and nobles for self-defense, for hunting, and for display. In combat, they were essential close-quarters weapons, capable of piercing the chain-mail armor worn by Indian warriors.

PARRYING SHIELD

DATE	18th century	WEIGHT	Unknown
ORIGIN	Central India	LENGTH	Blades: 7 in (17.7 cm)

This Indian parrying shield has five blades, each with a reinforced tip, that radiate from a central point. The grip is hidden behind a protective metal guard that curves backward around the warrior's hand.





Sunken panel with
chiseled figures

Reinforced
blade tip

Dual
cross-grip



Wood covered
with velvet

SCABBARD

INDIAN KATAR

DATE	Early 19th century	WEIGHT	20½ oz (570 g)
ORIGIN	India	LENGTH	16½ in (42.1 cm)

To use this north Indian dagger, the warrior grasped the cross-grips, making a fist, so that the sidebars of the hilt lay on either side of his hand and forearm. Holding the blade horizontally, he then stabbed with a punching motion.



Watered steel blade

Simple
flared tip



SCABBARD

Covering of velvet

Gilt brass chape

INDIAN KARD

DATE	1710–11	WEIGHT	12½ oz (340 g)
ORIGIN	India	LENGTH	15¼ in (38.5 cm)

Of Persian origin, the straight-bladed, single-edged *kard* was in use across much of the Islamic world by the 18th century, from Ottoman Turkey to Mogul India. The *kard* was mostly used as a stabbing weapon.

INDIAN KATAR

DATE 1759–60 / **WEIGHT** 18 oz (500 g)

ORIGIN India / **LENGTH** 17¾ in (44.6 cm)

Decorated with depictions of animal figures in gold inlay, this impressive *katar* and its scabbard were designed to show off their owner's wealth.

The *katar* was an effective weapon in close combat. The double-edged blade could penetrate chain-mail armor with a punching stab.



Gold *koftgari*
decoration

Dual cross-grip

H-shaped hilt

Binding of
gold thread

Hilt extension
embellished with
seated tiger

INDIAN BICH'HWA WITH CAST-BRASS HILT

DATE 18th century / **WEIGHT** 8½ oz (240 g)

ORIGIN India / **LENGTH** 11¼ in (29.6 cm)

This *bich'hwa*, the Indian word for scorpion, has a cast-brass hilt decorated with a monster's head. The knuckle guard is designed to depict the beast eating its own tail. The narrow, double-curved blade has a low medial ridge on both sides. The crudely cut marks on the quillon block may be letters.



Medial ridge
on blade



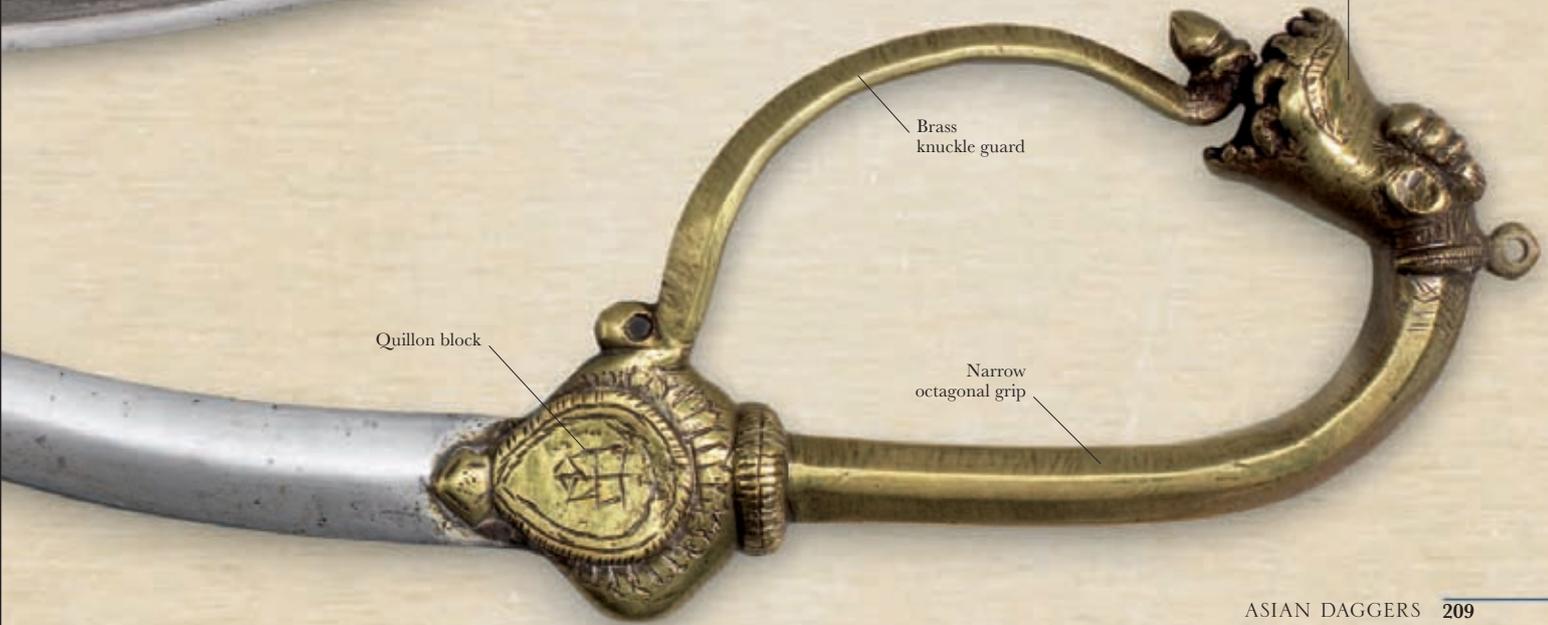
Mauve velvet covering

Chape decorated with image of parrot in foliage

SCABBARD



Reinforced blade tip



Grip terminates in monster-head decoration

Brass knuckle guard

Quillon block

Narrow octagonal grip



SRI LANKAN PIHA KAETTA

DATE	18th century	WEIGHT	9 oz (250 g)
ORIGIN	Sri Lanka	LENGTH	14¼ in (36.5 cm)

The broad-bladed, single-edged knife known as a *piha kaetta* is native to the island of Sri Lanka. Many *piha kaetta* were produced by royal workshops. With lavish use of silver on both knife and sheath, this fine example probably belonged to a courtier or high-ranking official.



MOGUL DAGGER

DATE	Late 17th century	WEIGHT	c. 11 oz (300 g)
ORIGIN	India	LENGTH	c. 8 in (20 cm)

This exquisite Mogul dagger has a hilt crafted from gold and precious stones such as rubies and sapphires and features a pommel shaped like a ram's head. The leather scabbard is equally lavish, following the curved contour of the blade.

MALAYAN DAGGER

DATE c. 18th century

WEIGHT c. 11 oz (300 g)

ORIGIN Malaysia

LENGTH c. 12 in (30.5 cm)

The shape of this Malayan dagger called a *kris* varies from region to region. The wavy blade contour delivers terrible stabbing injuries, and the rear of the blade widens at the hilt to form a type of cross-guard. The *kris* plays an important role in Malayan culture. It often has supernatural connotations, with certain blades believed to bring good or bad luck.

Ivory handle shaped like Garuda, a mythological eagle



Angled tip

Tapering single-edged blade

BHUTANESE DAGGER

DATE 18th century

WEIGHT 13 oz (350 g)

ORIGIN Bhutan

LENGTH 17 in (43.4 cm)

This straight-bladed dagger originates from the small Himalayan kingdom of Bhutan, which shares its borders with China and India. The hilt is chiseled with various Chinese symbols of good luck on a background of tendrils. The wooden scabbard has a border and chape of gilded iron.

Scabbard bound with layers of paper and red velvet



Iron grip with gold and silver inlay

Silver mount

SCABBARD



**BICH'HWA DAGGERS
WERE CARRIED BY
WARRIORS,
NOBLES, AND
ASSASSINS ALIKE.**

CURVED DAGGER

DATE	c. 18th century	WEIGHT	c. 7¼ oz (210 g)
ORIGIN	Southeast Asia	LENGTH	c. 11½ in (29 cm)

The blade of this dagger is strongly curved and sharpened on both edges, making it a slashing as well as a stabbing weapon. The blade of the dagger has a double fuller and floral engraving. The hilt is secured by three pins, with the tang button visible at the base.

INDIAN BICH'HWA WITH IRON HILT

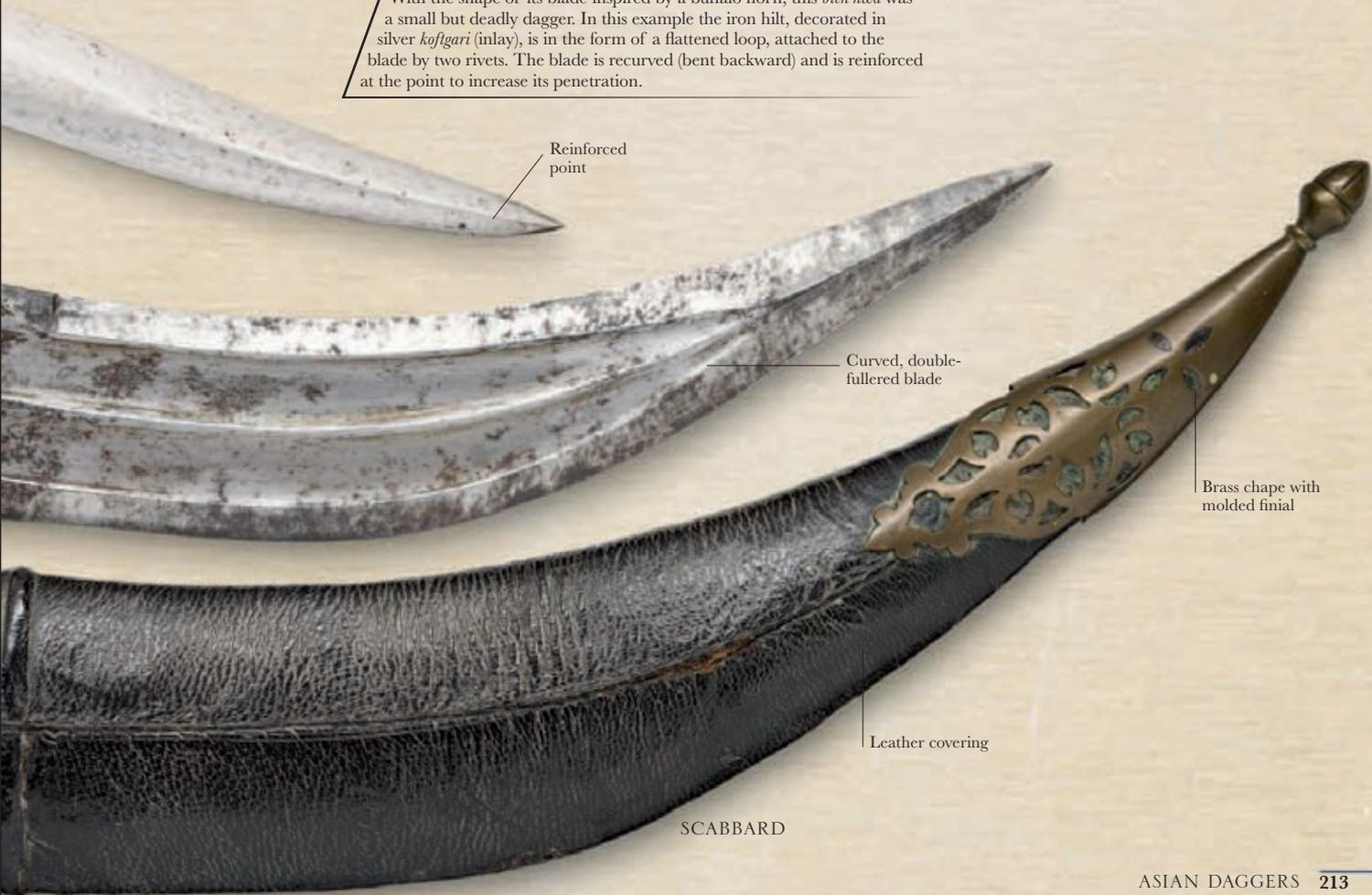
DATE 18th century

WEIGHT 7¼ oz (210 g)

ORIGIN India

LENGTH 10½ in (27.2 cm)

With the shape of its blade inspired by a buffalo horn, this *bich'hwa* was a small but deadly dagger. In this example the iron hilt, decorated in silver *koftgari* (inlay), is in the form of a flattened loop, attached to the blade by two rivets. The blade is recurved (bent backward) and is reinforced at the point to increase its penetration.



SCABBARD

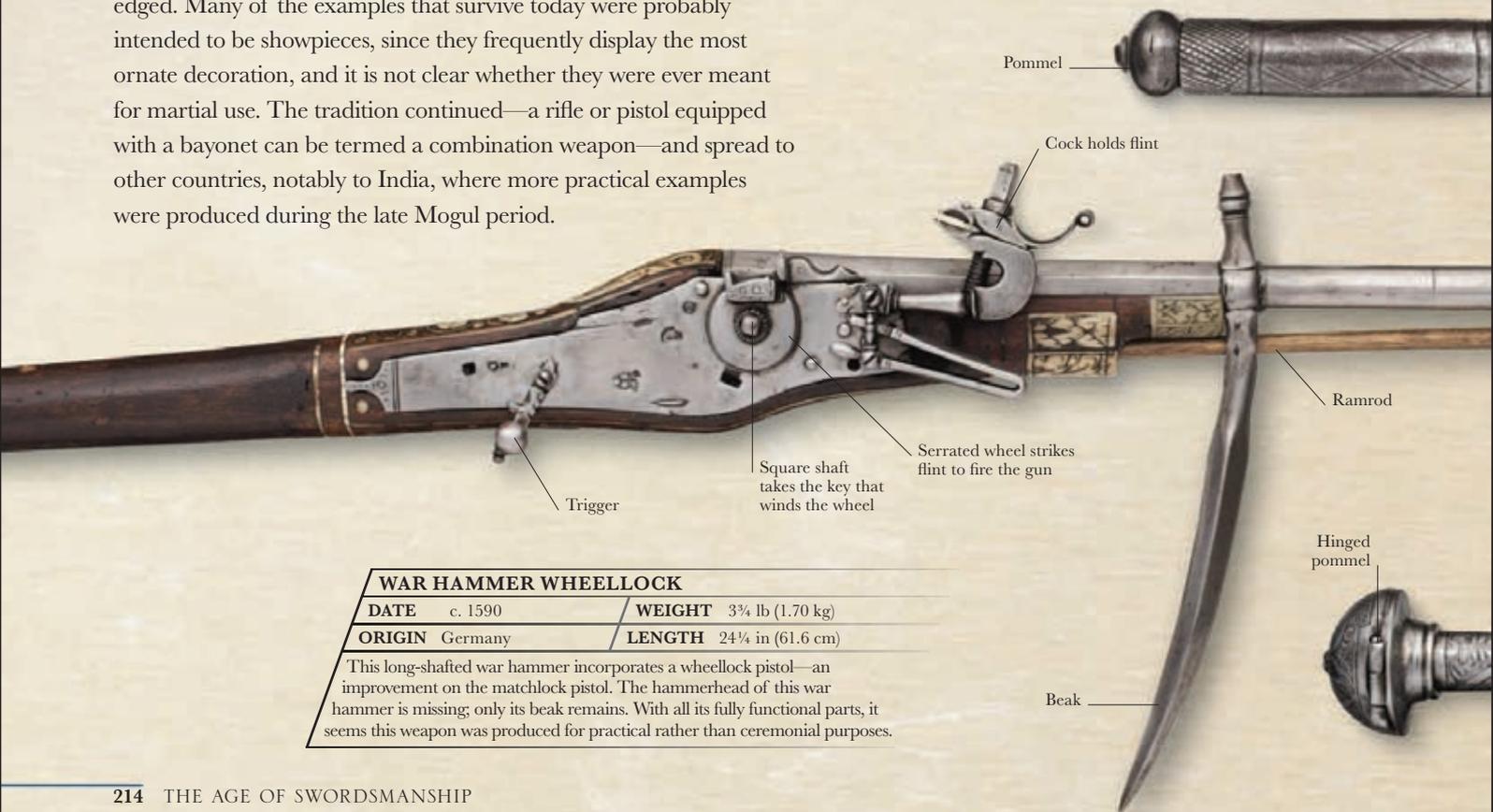
COMBINATION WEAPONS

German and Italian armorers of the 16th century were particularly adept at incorporating firearms into other weapons, both blunt and edged. Many of the examples that survive today were probably intended to be showpieces, since they frequently display the most ornate decoration, and it is not clear whether they were ever meant for martial use. The tradition continued—a rifle or pistol equipped with a bayonet can be termed a combination weapon—and spread to other countries, notably to India, where more practical examples were produced during the late Mogul period.

MATCHLOCK AX/DAGGER

DATE	c. 1820	WEIGHT	2½ lb (1.12 kg)
ORIGIN	India	LENGTH	20½ in (52.3 cm)

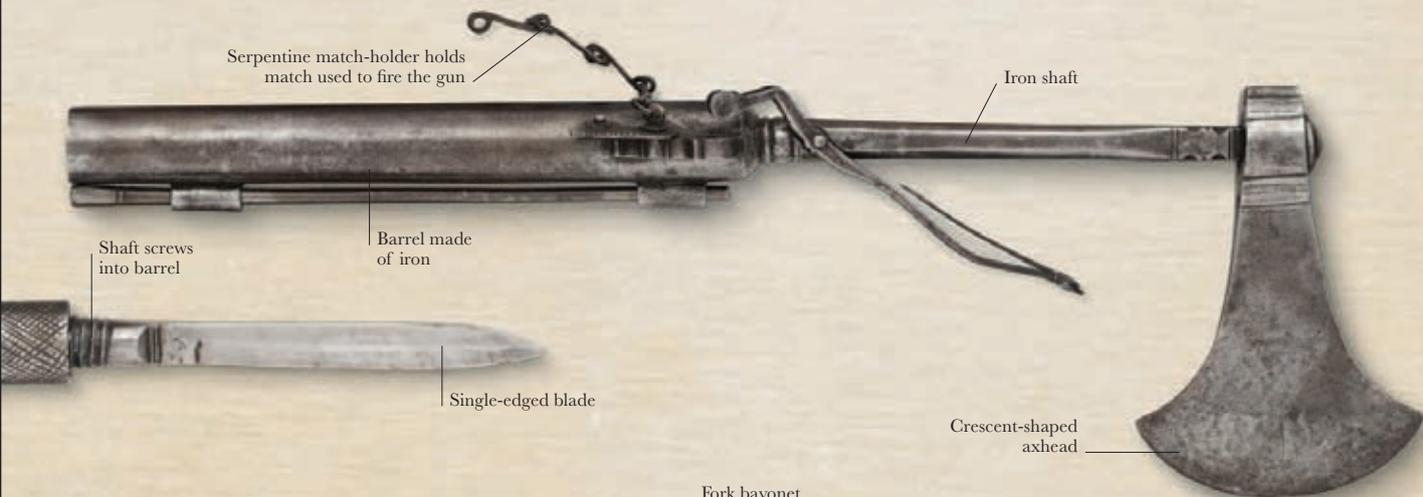
This weapon has been designed by combining a matchlock gun, an ax, and a dagger. A matchlock was an early type of gun that was fired using a smoldering cord. This gun's barrel is closed by a tubular, crosshatched grip, which unscrews to reveal a knife. The pommel also unscrews to reveal a tiny compartment. The axhead, decorated with engraved scrollwork, is mounted on an iron shaft.



WAR HAMMER WHELLOCK

DATE	c. 1590	WEIGHT	3¼ lb (1.70 kg)
ORIGIN	Germany	LENGTH	24¼ in (61.6 cm)

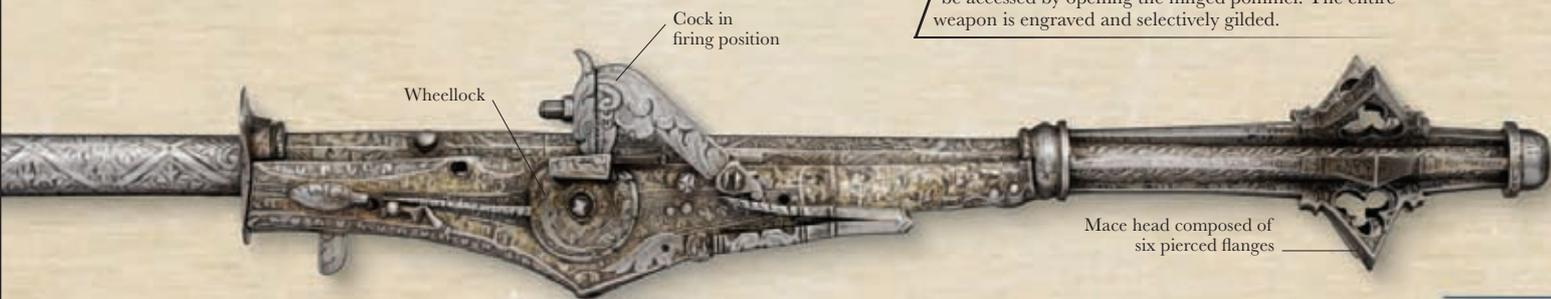
This long-shafted war hammer incorporates a wheellock pistol—an improvement on the matchlock pistol. The hammerhead of this war hammer is missing; only its beak remains. With all its fully functional parts, it seems this weapon was produced for practical rather than ceremonial purposes.



MACE WHEELLOCK

DATE	c. 1600	WEIGHT	3¼ lb (1.72 kg)
ORIGIN	Unknown	LENGTH	23 in (58.5 cm)

The barrel of this wheellock pistol forms the shaft of a mace, the head of which has six pointed flanges, each pierced with a trefoil shape. The hollow lower section of the shaft contains a compartment that can be accessed by opening the hinged pommel. The entire weapon is engraved and selectively gilded.





Double-edged
halberd blade

Gilt decoration

Balancing fluke

HALBERD DOUBLE-BARRELED WHEELLOCK

DATE c. 1590	WEIGHT 7 lb (3.25 kg)
ORIGIN Germany	LENGTH 27 in (69.1 cm)

This hunting halberd is equipped with a double-barreled wheellock pistol. The pistol barrels are octagonal and mounted on each side of the leaf-shaped blade. The whole weapon is etched and partly gilded with strap and scrollwork; the ax and fluke of the head bear additional trophies of arms.

Ax blade

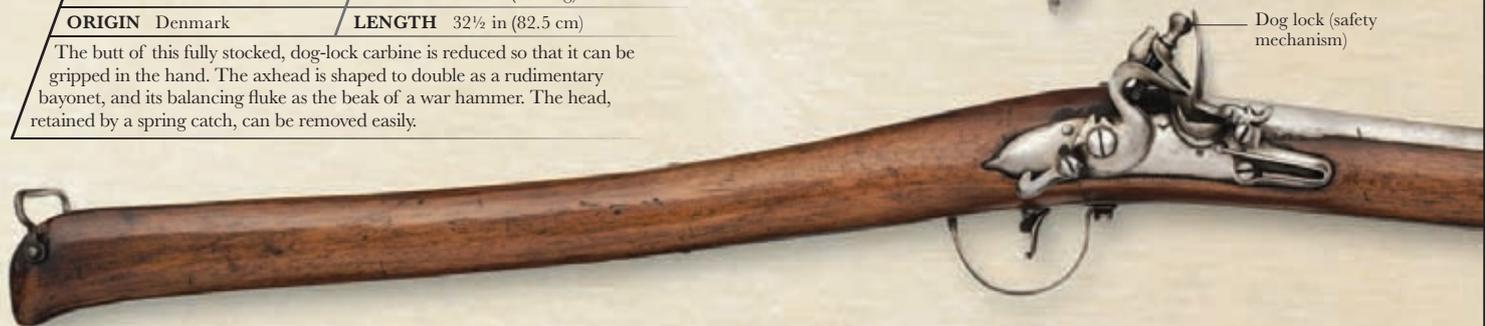
Trophy of arms

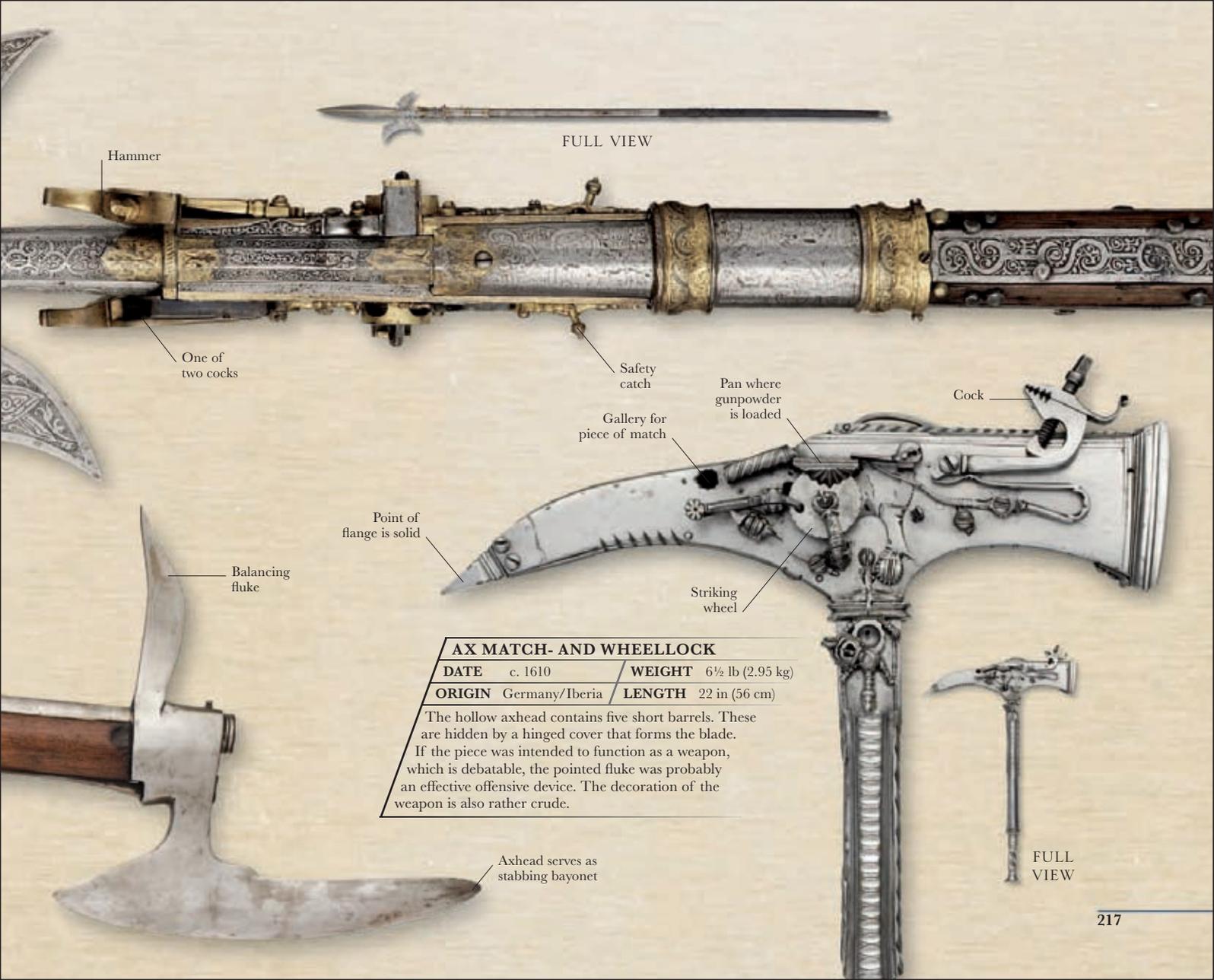
CARBINE AX

DATE c. 1720	WEIGHT 3¼ lb (1.55 kg)
ORIGIN Denmark	LENGTH 32½ in (82.5 cm)

The butt of this fully stocked, dog-lock carbine is reduced so that it can be gripped in the hand. The axhead is shaped to double as a rudimentary bayonet, and its balancing fluke as the beak of a war hammer. The head, retained by a spring catch, can be removed easily.

Dog lock (safety
mechanism)





FULL VIEW

Hammer

One of two cocks

Safety catch

Pan where gunpowder is loaded

Gallery for piece of match

Cock

Point of flange is solid

Balancing fluke

Striking wheel

AX MATCH- AND WHEELLOCK

DATE c. 1610 / **WEIGHT** 6½ lb (2.95 kg)

ORIGIN Germany/Iberia / **LENGTH** 22 in (56 cm)

The hollow axhead contains five short barrels. These are hidden by a hinged cover that forms the blade. If the piece was intended to function as a weapon, which is debatable, the pointed fluke was probably an effective offensive device. The decoration of the weapon is also rather crude.

Axhead serves as stabbing bayonet

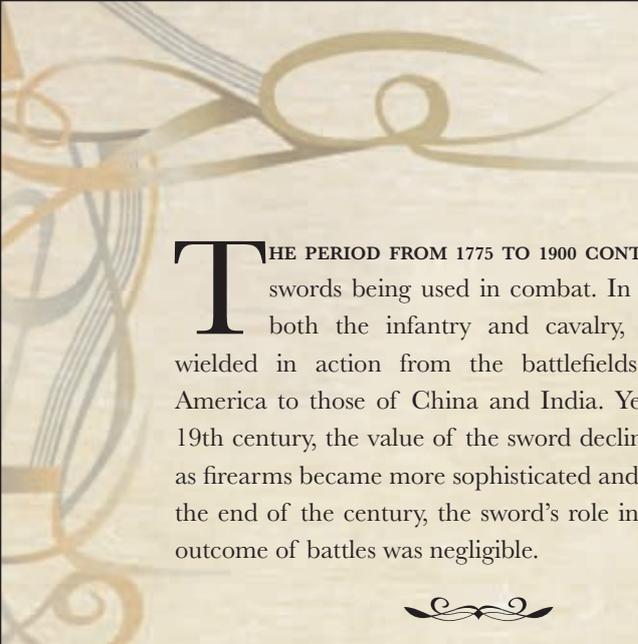
FULL VIEW





TWILIGHT OF THE SWORD

1775—1900



THE PERIOD FROM 1775 TO 1900 CONTINUED to see swords being used in combat. In the hands of both the infantry and cavalry, swords were wielded in action from the battlefields of colonial America to those of China and India. Yet, during the 19th century, the value of the sword declined massively, as firearms became more sophisticated and powerful. By the end of the century, the sword's role in deciding the outcome of battles was negligible.



It was the widespread use of firearms that irrevocably altered the status of the sword, but this change was gradual. Firearms had been around for several centuries and by 1775 the flintlock musket became the standard infantry weapon of most European armies. Its automated mechanism allowed the infantryman to fire the gun more easily, which gave him a tactical advantage over the more traditionally armed enemy. Yet the flintlock had its limitations. Flintlock weapons were generally inaccurate and suitable only for tactics such as volley fire, when all the muskets were fired simultaneously. They also had a poor rate of fire—only two or three rounds a minute in battlefield conditions—and wet weather dampened gunpowder, rendering entire

banks of muskets useless. Because of these limitations, foot soldiers still had to come close to the enemy to secure victory, and in the ensuing close-quarters battle the sword still proved useful, particularly for the cavalry. Fine examples of short swords and cavalry swords therefore remained in production throughout the 19th century, not only in Europe but also in the newly independent United States.



Prior to the arrival of the European colonists in the 16th century, the Native American population used traditional knives made of stone, bone, and horn, as well as some copper blades. Yet as colonization expanded in the 17th century, the Native Americans increasingly used daggers bought directly from European settlers. The settlers too initially used swords and daggers made in Europe, but during and following the Revolutionary War (1775–83) the homegrown sword industry began to flourish. Simple battle-ready hanger swords, cavalry sabers, and bayonets were forged, which steadily became popular across the country. During the 19th century, certain American blades such as the Bowie knife gained international recognition. By the time of the Civil War (1861–65) sword production in the United States reflected the

North-South divide. The Northern Union produced high volumes of swords, possibly because of its greater reliance on cavalry and its more powerful industrial base, while the Confederate South was forced to rely on far smaller outputs from local swordsmiths and factories.



During the 19th century, blade design more or less ceased to evolve. During their colonial expansion, British soldiers often encountered opposition from warriors wielding medieval-style swords. In Burma, for example, during the wars of 1824–86, British and allied Indian soldiers faced Burmese warriors swinging the *dha*, a single-edged blade similar in shape but not in quality to the Japanese samurai swords. In the Middle East, Turkish warriors were still seen carrying the *yataghan* sword, even as the Ottoman Empire faded. However, the prominence of swords declined further as the century wore on. By the 1890s, firearms had evolved into breech-loading guns (loaded from the rear of the barrel) fed by magazines of cartridges. A single infantryman could now fire 10–15 accurately aimed shots per minute. The introduction of automatic guns such as the multi-barreled Gatling and the self-powered Maxim machine guns turned individual firearms into weapons of

mass destruction. The development of firearms meant that by the end of the century most battles were decided by exchanges of firepower, not in close-quarters engagements with the sword. This raised questions about the relevance of the sword in combat. At the same time, the civilian use of swords also dwindled and faded.



Advances in gun making transformed warfare, but did not remove blades from the battlefield. At the end of the 19th century every modern army still used hefty bayonets, and officers often wore dress swords to distinguish themselves from their men. Although firearms could kill opponents at long range, soldiers still had to fight at close quarters to take and hold ground, and here the bayonet was invaluable. New models of bayonet were issued in Europe throughout the 1890s, and promised to keep the blade-bearing warrior a reality into the 20th century.

TWILIGHT OF THE SWORD

EUROPEAN SWORDS

By the time of the French Revolution (1789–99) and Napoleonic Wars (1799–1815), cavalry swords had evolved into the long, straight, thrusting sword of the heavy cavalry, and the light cavalry's curved saber that was designed for cutting and slicing. For the infantry, the rising supremacy of firearms meant that swords were well on their way to becoming ceremonial weapons, but such was their status that they continued to be used as symbols of rank, carried by officers and senior noncommissioned officers. Having lost their practical function, infantry swords became increasingly decorative, some even harkening back to weapons of the classical era.

Knuckle guard with two side branches

Oval rivet secures tang to hilt

Brass pommel and back piece

FULL VIEW

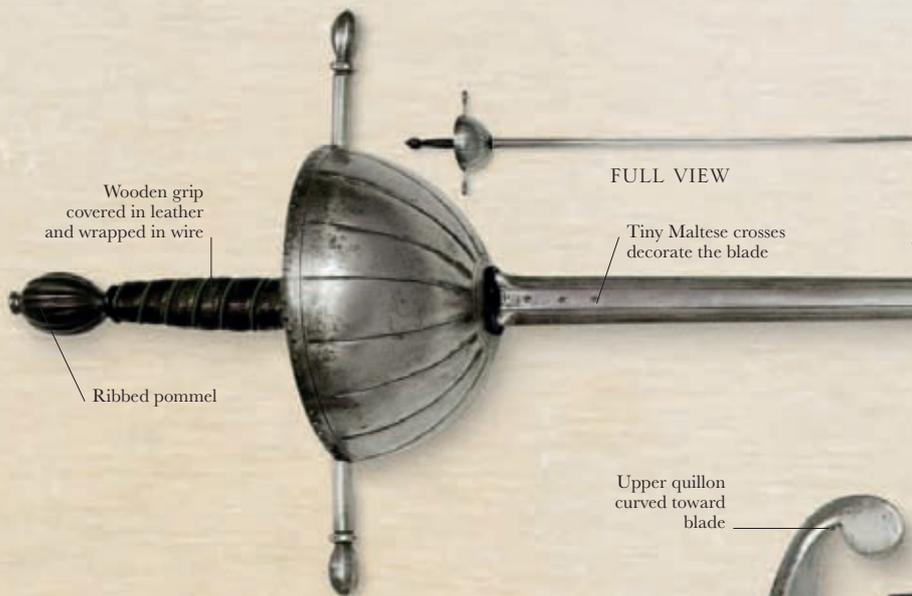
MODEL 1827 SABER

DATE c. 1830	WEIGHT 2¾ lb (1.22 kg)
ORIGIN Russia	LENGTH 3¼ ft (1.02 m)

A copy of cavalry swords of the Napoleonic era, the Russian Model 1827 Cavalry Saber had a slightly curved, single-edged blade with a wide fuller and a brass hilt. The twin langets were not only useful in firmly securing the sword to the scabbard, but also helped in trapping an opponent's sword.

Single-edged blade

Langet fixed over cross-guard



FULL VIEW

Wooden grip covered in leather and wrapped in wire

Ribbed pommel

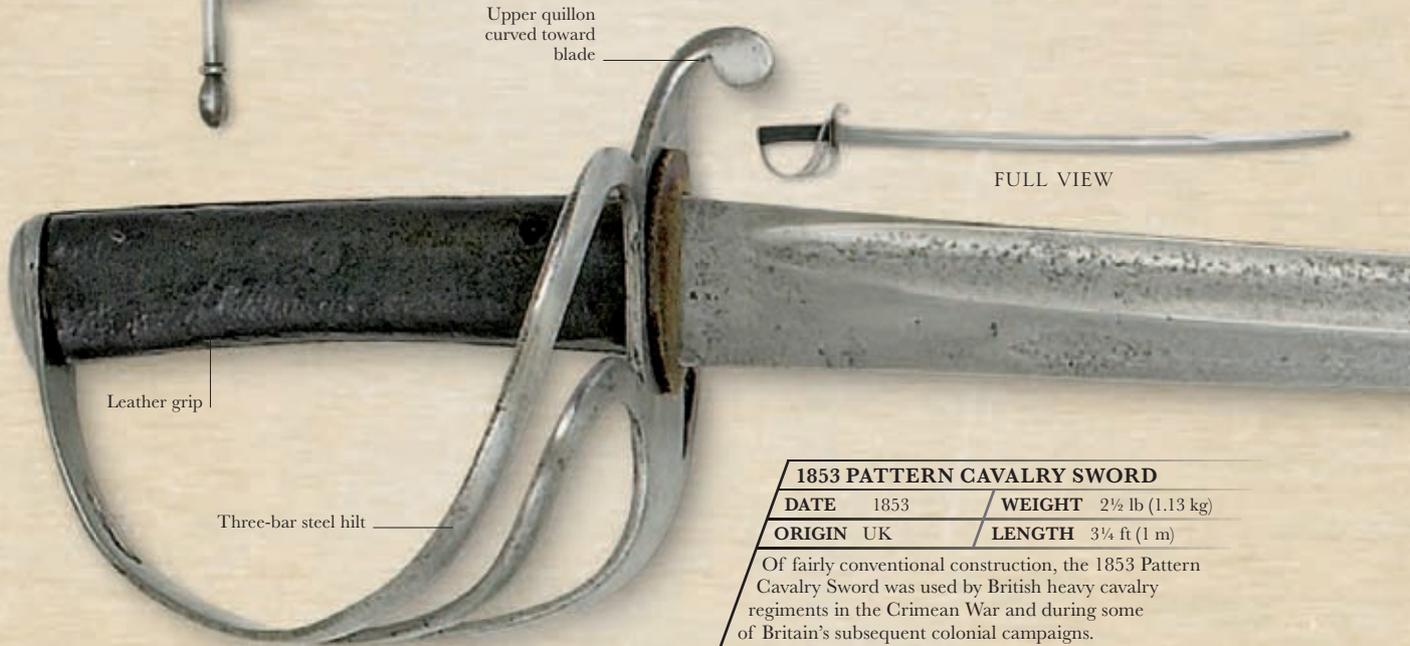
Tiny Maltese crosses decorate the blade

RAPIER

DATE 19th century / **WEIGHT** 32 oz (900 g)

ORIGIN Europe / **LENGTH** 4 ft (1.2 m)

This 19th-century rapier is designed in the style of Maltese rapiers of the 17th century. It features a deep, cup-shaped hand-guard to protect the swordsman's fingers, backed by a straight cross-guard.



FULL VIEW

Upper quillon curved toward blade

Leather grip

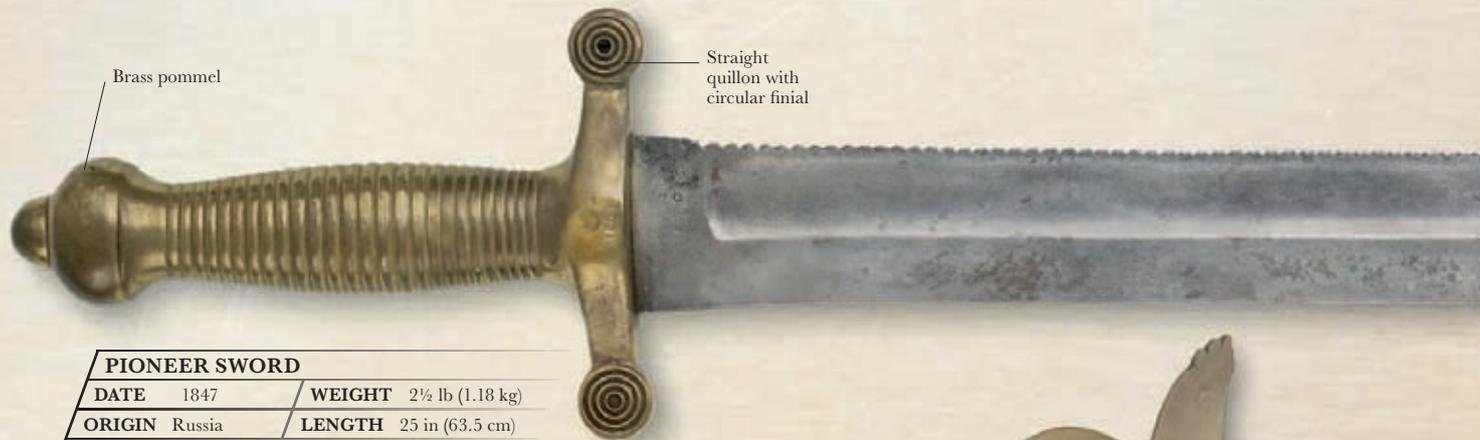
Three-bar steel hilt

1853 PATTERN CAVALRY SWORD

DATE 1853 / **WEIGHT** 2½ lb (1.13 kg)

ORIGIN UK / **LENGTH** 3¼ ft (1 m)

Of fairly conventional construction, the 1853 Pattern Cavalry Sword was used by British heavy cavalry regiments in the Crimean War and during some of Britain's subsequent colonial campaigns.



Brass pommel

Straight quillon with circular finial

PIONEER SWORD

DATE 1847 / **WEIGHT** 2½ lb (1.18 kg)

ORIGIN Russia / **LENGTH** 25 in (63.5 cm)

The hilt of this Russian sword is based on the French Model 1831 infantry sword. Both weapons reflect an interest in the classical world and clearly demonstrate the influence of the Roman *gladius* (pp. 34–35). The all-brass hilt includes a simple cross-guard, ribbed grip, and pommel, while the short, wide blade has a single fuller.



Brass pommel cap

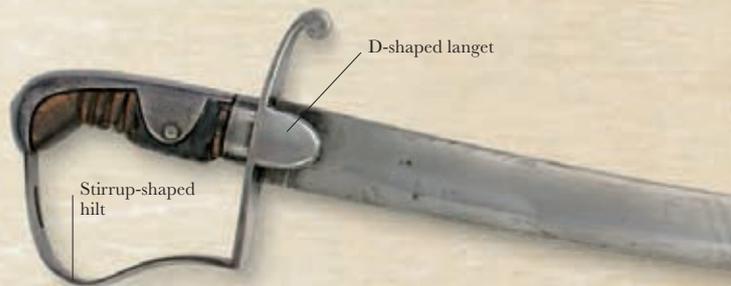
Brass hilt includes the symbol of the *Fasces*, a reference to republican Rome

1796 LIGHT CAVALRY SWORD

DATE 1796 / **WEIGHT** 2¼ lb (1 kg)

ORIGIN UK / **LENGTH** 38 in (96.5 cm)

Considered to be among the finest of cutting swords, the 1796 Light Cavalry Sword was developed in tandem with the Heavy Cavalry Sword (pp. 234–35). The broadening of the blade near the tip gave greater power at point of impact.



Stirrup-shaped hilt

D-shaped langet

Serrated edge for
sawing wood



Straight single-edged
blade with two fullers



FULL VIEW

MODEL AN IV CAVALRY SWORD

DATE	1794	WEIGHT	2½ lb (1.16 kg)
ORIGIN	France	LENGTH	3½ ft (1.13 m)

Known as the Model An IV (Year 4, after the French Revolutionary calendar), this sword equipped some French heavy cavalry and dragoons (infantrymen trained in horse riding) during the Napoleonic period. Its long blade, like other French cavalry swords, was narrower than its British equivalent.

Curved blade
wider at the
tip than hilt



BRITISH CAVALRYMAN

From the late 18th to the end of the 19th century, fascinating developments took place in the British cavalry. There were two types of cavalry—heavy cavalry (heavily armed and armored) and light cavalry, which used lighter arms and armor.



British cavalrymen used a mix of swords, and there was little consistent training until the intervention of Major-General John Gaspard Le Marchant, a cavalry general in the British Army.

Dissatisfied with the state of cavalry swords and swordsmanship during his campaigns with the British Army in the 1790s, Le Marchant developed a new sword and published a manual of mounted warfare techniques. His tactics focused on striking at the enemy's head with precision even when at a gallop. Le Marchant's 1796 Light Cavalry Sword (*pp.* 224–25) was a good cutting weapon adopted by the light cavalry, but the army decided that the heavy cavalry should use a straight, heavy cutting sword, like the heavy cavalry sword (below), since it made the strike more powerful. After testing various designs, a new cut-and-thrust cavalry saber was established in 1853 as standard for both light and heavy cavalry.



LE MARCHANT'S MANUAL RECOMMENDED SIX OFFENSIVE STROKES, ALL AT THE HEAD OF THE OPPONENT.

HEAVY CAVALRY SWORD

DATE 1796	WEIGHT 2½ lb (1.13 kg)
ORIGIN UK	LENGTH 3¼ ft (1 m)

Based on an Austrian design, this sword equipped British heavy cavalry regiments during the Napoleonic Wars (1799–1815). It had one cutting edge with the opposite edge thickened for added strength. Although unwieldy in action, it was a forceful cutting sword.

MOUNTED ATTACK

This engraving depicts the charge of the Light Brigade in the battle of Balaklava on October 25, 1854, during the Crimean War (1853–56). The British soldiers of the Light Brigade used the 1853 cavalry pattern of saber, while the Heavy Brigade used the 1796 heavy cavalry swords.





Guard consisting of twin disks of thin iron, known as a “figure-eight” guard

Forward-facing quillon flowing from knuckle guard

MODEL 1804 CUTLASS

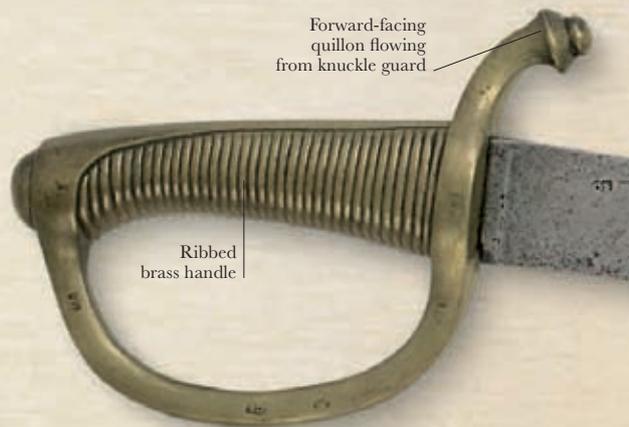
DATE c. 1804

WEIGHT 3 lb (1.32 kg)

ORIGIN UK

LENGTH 33½ in (85.5 cm)

The British Model 1804 cutlass—issued a year before the battle of Trafalgar—is a utilitarian, straight-bladed weapon with a double-disk guard and a ribbed iron handle, painted black to protect against corrosion. The Model 1804 was the first standard issue cutlass in the Royal Navy.



Ribbed brass handle



Inscription recording the history of the sword

Classical figure of victory

Inscription mentions that the sword was made in the Spanish city of Toledo

Straight double-
edged blade

Simple ogival
(arched) point



FULL VIEW

NAPOLEONIC INFANTRY SWORD

DATE Early 19th century / **WEIGHT** 32 oz (900 g)

ORIGIN France / **LENGTH** 29 in (74 cm)

Carried by the ordinary foot soldier during the Napoleonic Wars, this infantry hanger was known as a “briquet.” It has a simple, one-piece brass grip, which is ribbed to improve the grip, and a curved steel blade. This type of sword was also issued to French sailors in place of a naval cutlass.

Curved steel blade

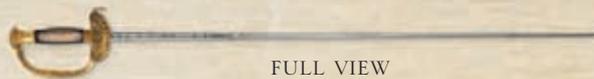
Double-edged blade
with single deep fuller

SPANISH CEREMONIAL RAPIER

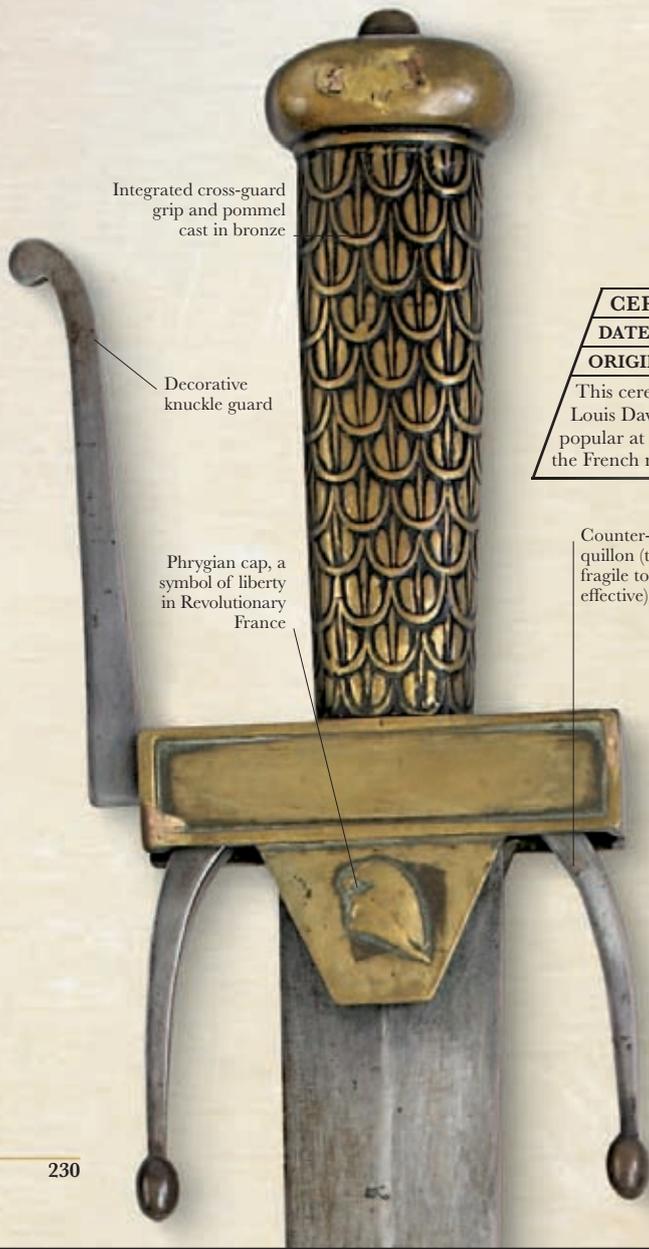
DATE Early 19th century / **WEIGHT** c. 2¼ lb (1 kg)

ORIGIN Spain / **LENGTH** c. 4½ ft (1.4 m)

This sword was surrendered by the French governor of Ciudad Rodrigo, in Spain, to British Lieutenant John Gurwod, who led the attack on this fortress in 1812 during the Peninsular War (1800–14). The inscription on the blade shows the sword was made in Toledo, a city famous for its high-quality metalwork.



FULL VIEW



Integrated cross-guard
grip and pommel
cast in bronze

Decorative
knuckle guard

Phrygian cap, a
symbol of liberty
in Revolutionary
France

Counter-guard
quillon (too
fragile to be
effective)



FULL
VIEW

"Crowing rooster" pommel



Brass pommel cap



Knuckle guard with
three additional
branches

CEREMONIAL CADET SWORD

DATE 1794 **WEIGHT** 32 oz (900 g)

ORIGIN France **LENGTH** 26½ in (67 cm)

This ceremonial sword, designed by artist Jacques Louis David, followed the classical Roman model popular at the time. It was issued to students of the French military academy.

Brass cross-guard with downward-curving quillons

Curved, single-edged steel blade with serrated back edge

FULL VIEW

PIONEER SWORD

DATE c. 1800 / **WEIGHT** 2¾ lb (1.22 kg)

ORIGIN France / **LENGTH** 32 in (81 cm)

This sword's one-piece brass hilt is topped by a crowing rooster figure that acts as the pommel. The steel blade includes a serrated or sawback edge, a feature of pioneer swords. It is slightly curved with a point reminiscent of a falchion, a short broadsword used during medieval times.

Steel blade with double fullers

MODEL AN XIII SWORD

DATE 1810 / **WEIGHT** 7 lb (3.13 kg)

ORIGIN France / **LENGTH** 3½ ft (1.13 m)

A successor to the An IV sword (*pp.* 224–25), this weapon armed the French dragoons and heavy cavalry in the latter part of the Napoleonic Wars. The sword has a straight, single-edged blade with two prominent fullers running down its length.

FULL VIEW



Double boat-shaped shell guard

DUKE OF WELLINGTON'S SWORD

DATE	19th century	WEIGHT	c. 2½ lb (1.1 kg)
ORIGIN	UK	LENGTH	c. 39¼ in (99 cm)

Arthur Wellesley (1769–1852), the Duke of Wellington, built up a distinguished collection of ceremonial swords in his career as a general and statesman, including this exquisite smallsword. It features a hilt made up of two boat-shaped shell guards and a high-quality metal grip. The blade has deep turquoise and gold decoration, which runs up to one-third of its length.

Gold decoration on blade

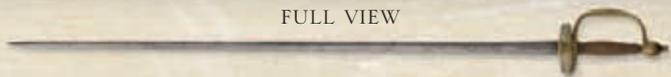


FULL VIEW



Rapierlike blade suited to thrusting

FULL VIEW



“
IF THEY BE THE FIRST TO
DRAW THE SWORD,
I SHALL BE THE LAST
TO SHEATH IT.”

NAPOLEON BONAPARTE, ON THE BRITISH, 1803



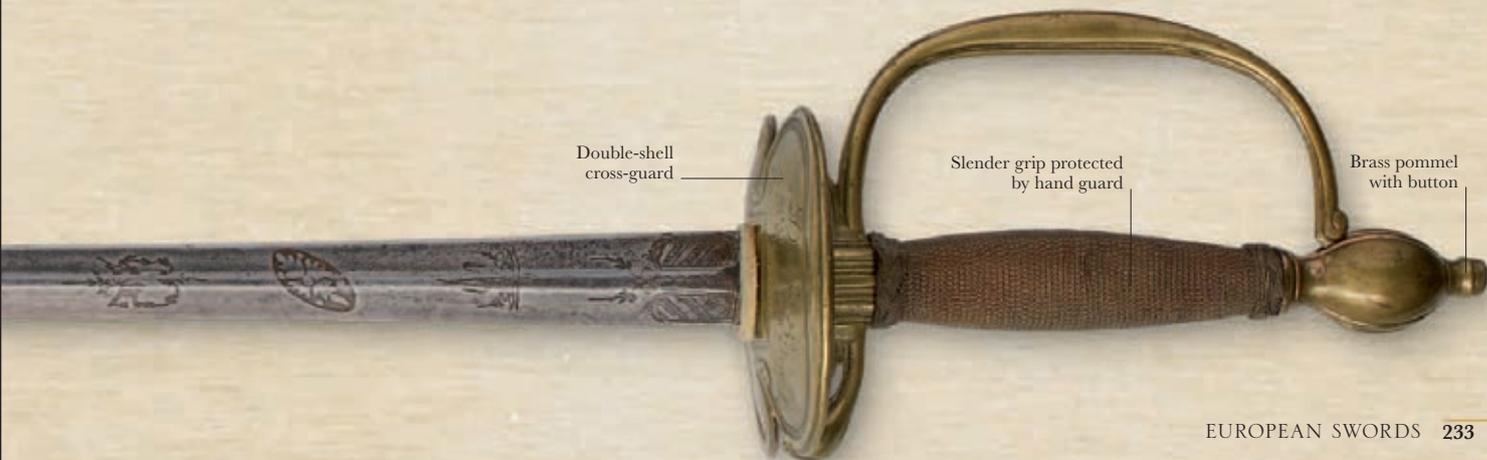
Spherical pommel
riveted to knuckle guard

NAPOLEON'S SWORD

DATE Late 18th century / **WEIGHT** c. 2¼ lb (1.02 kg)

ORIGIN France / **LENGTH** c. 37¾ in (96 cm)

This simple, rapierlike sword belonged to none other than the French emperor Napoleon Bonaparte (1769–1821). It was presented to him when he was serving as a young artillery officer. The sword's double-shell cross-guard is made of brass and carries an inscription meaning “Royal Artillery” in French.



Double-shell
cross-guard

Slender grip protected
by hand guard

Brass pommel
with button

FENCING

Fencing developed in Europe in the 13th or 14th century as a form of training for duels (*pp.* 136–37) and for warfare. By the 15th century, it had evolved into a sport, with points awarded to a fencer when his sword made contact with his opponent's body. Fencing's popularity surged in the 16th century, when it became fashionable for civilians to carry swords. Fought with rapiers (*pp.* 138–41) and smallswords (*pp.* 142–45), early fencing was dangerous, and at times fatal. It became much safer in the 18th century with the introduction of the fencing mask and customized weapons—the foil and the fencing saber. These,

along with the *épée* (below), became the quintessential fencing weapons. All three corresponded to a particular style of fencing, governed by its own set of rules. The foil, a light, flexible sword with a blunt tip, was used for thrusting movements—only the tip of its blade made contact with the opponent. The saber was of a similar design, but was used for both thrusting and slashing—the tip and edges of the blade came into play. The *épée* was developed in the 19th century by a group of French students who found the foil and saber too light to give the experience of a realistic duel. Essentially a copy of the smallsword, it was used for thrusting, like the foil. While dueling was steadily banned in many countries during the 17th to 19th centuries, fencing's popularity continued. The sport featured in the first modern Olympic Games in 1896 and continues to be an integral part of the event.



“
TWICE HE TOUCHED
HIS CHEST, AND BY DEGREES
DROVE HIM BACK,
PANTING, UNTIL HE WAS
AGAINST THE DOOR.”

WRITER WEIR MITCHELL DESCRIBES A FENCING
MATCH IN *THE ADVENTURES OF FRANCOIS*, 1898

”

ÉPÉE

DATE c. 19th century / **WEIGHT** c. 14 oz (400 g)

ORIGIN Britain / **LENGTH** c. 35 in (90 cm)

The *épée* was specially developed as a sporting version of the smallsword. It has a flexible, three-sided blade, with a blunt tip that reduces the chance of injury. A shallow, cup-shaped guard protects the fencer's hand, while a wrist loop prevents the sword from being dropped.

FENCING FOR AN AUDIENCE

This illustration by artist F. Meaulle appeared in *Le Petit Journal* on June 9, 1895. It shows two men fencing at the Palais de l'Élysée, the official residence of the president of France.



SWORDS OF THE AMERICAN CIVIL WAR

The armorers of the newly independent United States of America followed patterns for sword making from a mixture of German, French, and British sources. But from the 1840s onward, US swords were based almost exclusively on French designs, and it was these swords that armed the soldiers of the American Civil War (1861–65). While the Union forces of the North were well supplied with arms and equipment, the Confederate armies in the South were short of weapons of all kinds, including swords. They were forced to rely on captured Union stocks, foreign sources, and their own home-produced weapons.

Leather grip wrapped
in twisted brass wire



Guard
branch

Knuckle guard

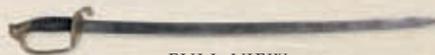
MODEL 1860 LIGHT CAVALRY SABER

DATE	c. 1860	WEIGHT	3 lb (1.36 kg)
ORIGIN	USA	LENGTH	35½ in (90 cm)

This saber, used by armies of both sides during the Civil War, was designed to replace the Model 1840 Light Cavalry Saber. The latter was a heavy, powerful sword whose weight made it unpopular with the troops, who nicknamed it “Old Wrist Breaker.” The new sword was not considered much of an improvement, although it was an effective thrusting and hacking weapon.



Guard with upper quillon swept forward



FULL VIEW

MODEL 1850 "FOOT" OFFICER'S SWORD

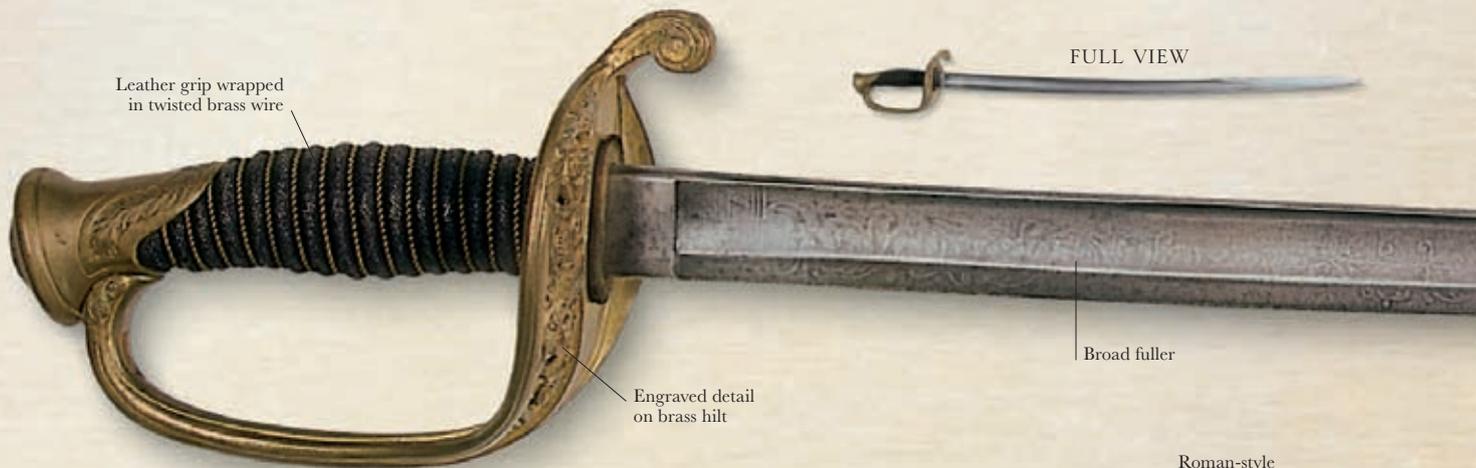
DATE	c. 1850	WEIGHT	2½ lb (1.13 kg)
ORIGIN	USA	LENGTH	31 in (78.75 cm)

This sword would have been used by officers on both sides during the Civil War, and was very similar to the Model 1850 "Mounted" Field and Staff Officer's Sword. Influenced by French patterns, this sword has a brass hilt and a grip made either from leather or the skin of a ray or shark—material that gave a very good grip. The single-edged blade is slightly curved.



FULL VIEW

Sharpened back edge for backhand strikes



Leather grip wrapped
in twisted brass wire

FULL VIEW

Broad fuller

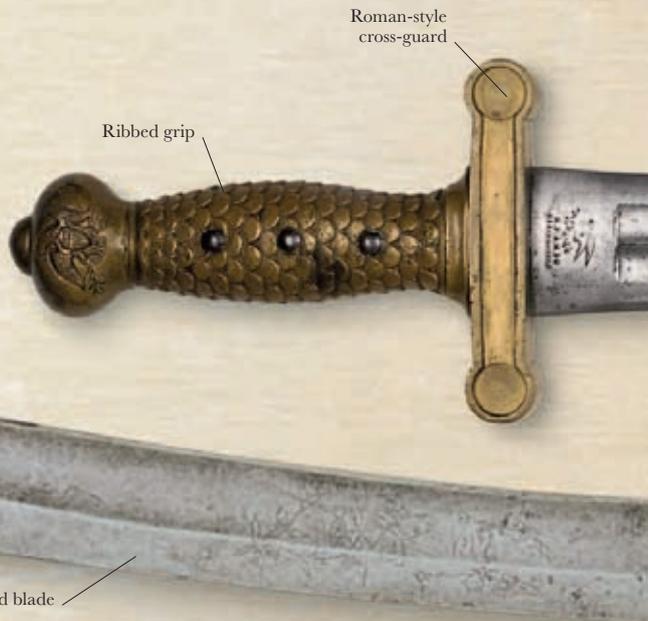
Engraved detail
on brass hilt

FOOT OFFICER'S INFANTRY SWORD

DATE Blade: c. 1820 **WEIGHT** 2½ lb (1.13 kg)

ORIGIN USA **LENGTH** 29 in (73.6 cm)

The US army's artillery regiments had their own distinctive swords. This Confederate artillery saber was made by Boyle, Gamble & McFee, which was based in Richmond, Virginia; the blade dates from the 1820s. The sword was used by General William Miller of the 1st Florida Regiment.



Roman-style
cross-guard

Ribbed grip

Forward-facing
quillon



Pommel cap

D-shaped single
knuckle guard

Curved, single-edged blade

MODEL 1850 INFANTRY SWORD

DATE	c. 1850	WEIGHT	2½ lb (1.13 kg)
ORIGIN	USA	LENGTH	30 in (76.8 cm)

Swords such as the example shown here equipped the majority of infantry officers on the Union side. By the time of the Civil War, officers would rarely have used a sword in actual combat, but such was its potency that it continued to be worn throughout the 19th century as a symbol of rank.

ARTILLERYMAN'S SHORT SWORD

DATE	c. 1850	WEIGHT	c. 2¾ lb (1.2 kg)
ORIGIN	USA	LENGTH	25 in (63.5 cm)

Long before the Civil War, the US Army gave artillerymen these short swords, modeled on the blades of ancient Rome. Originally intended for self-defense, by the time of the Civil War they were generally used instead for cutting rope and cannon fuses.

Deep fuller

Double-edged blade

FULL VIEW

CONFEDERATE SWORD

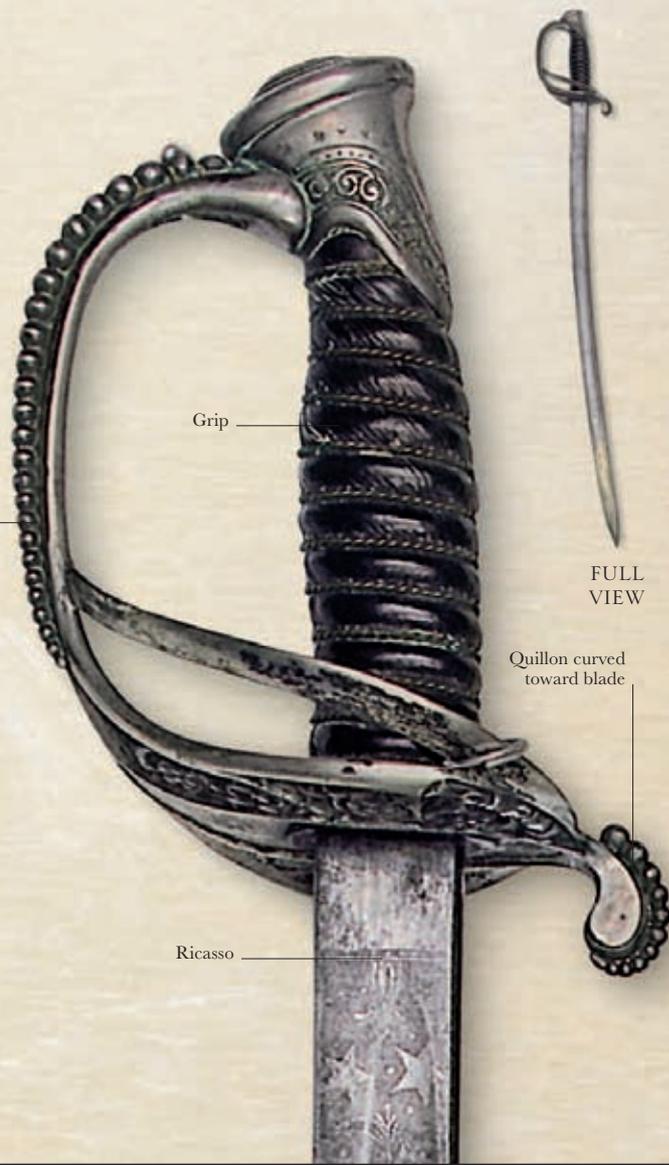
DATE c. 1860 / **WEIGHT** 2½ lb (1.13 kg)

ORIGIN USA / **LENGTH** 30 in (76.2 cm)

The purchase of weapons for popular officers by their troops was a feature of American military life. This fine sword, made by Leech & Rigdon, was presented in 1864 to General D. W. Adams of the Confederate Army by the men under his command. The sword follows the standard pattern for staff and field officers' swords in the Confederate forces.

“
A YOUNG LIEUTENANT
HAD FALLEN IN TRYING TO
RALLY HIS MEN:
HIS HAND WAS STILL FIRMLY
GRASPING HIS SWORD...
”

POPULAR SCIENCE, 1893



Grip

Knuckle guard

FULL
VIEW

Quillon curved
toward blade

Ricasso



Grip

FULL VIEW

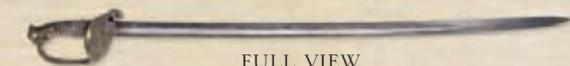
Steel blade

Brass hand guard

UNION NAVY CUTLASS

DATE	Early 1860s	WEIGHT	2¼ lb (1.2 kg)
ORIGIN	USA	LENGTH	32 in (81 cm)

During the Civil War, sailors had to maintain stocks of weapons aboard ship for defending their vessel against boarders. This Union Navy cutlass, with its hefty brass hand guard and double-edged tip, was one of dozens stored in a rack on the ship's main deck, ready for use.



FULL VIEW

Guard with upper quillon swept forward



Pommel cap

Knuckle guard

Single-edged blade

MODEL 1850 INFANTRY SWORD

DATE	c. 1850	WEIGHT	2½ lb (1.13 kg)
ORIGIN	USA	LENGTH	30 in (76 cm)

The Model 1850 infantry sword was not only a functional weapon of war, but was also an object of fine craftsmanship. The intricate detail on the hilt is one of its prominent features. It was carried by company grade officers in the infantry, and continued in service until the early 1870s, after which it was replaced.

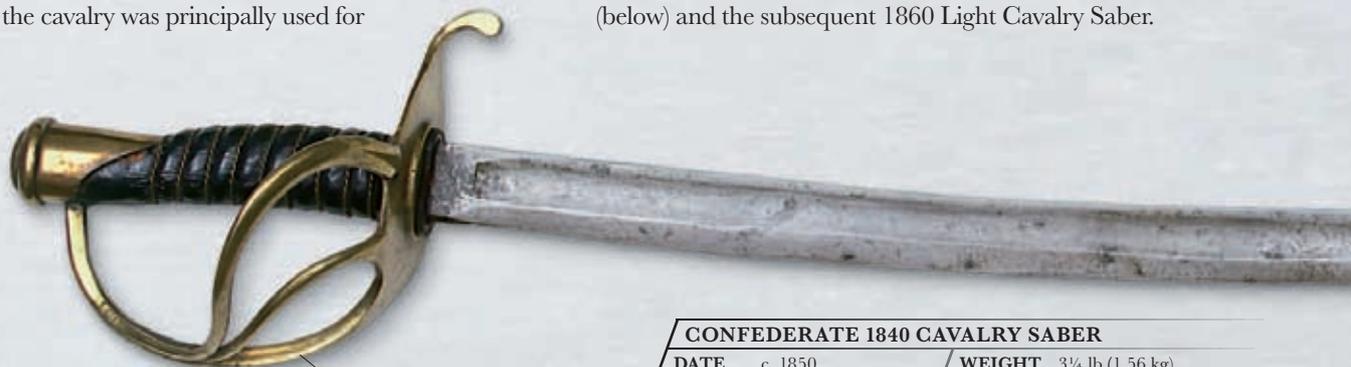
UNITED STATES CAVALRYMAN

The American Civil War (1861–65) between the Confederate South and the Northern Union marked a transitional time for American cavalry. The increased use of musket and cannon threatened to make the cavalry obsolete, at least in open battle.



Massed cavalry actions still occurred—for example, at the battles of Brandy Station (1863) and Trevilian Station (1864). Aside from these, the cavalry was principally used for

raiding, pursuit, and reconnaissance. Initially, the Confederate cavalry was regarded as a superior force because of its better horsemanship, but by 1864 the Union cavalry had achieved similar competence. The Northern cavalry used traditional sabers more for fighting, while the Southern cavalry preferred carbines and pistols, although they still wore sabers alongside their firearms, as backup weapons and as a sign of status. The classic Civil War cavalry swords were the 1840 Cavalry Saber (below) and the subsequent 1860 Light Cavalry Saber.



Brass basket hilt and guard

CONFEDERATE 1840 CAVALRY SABER

DATE	c. 1850	WEIGHT	3¼ lb (1.56 kg)
ORIGIN	USA	LENGTH	35 in (89 cm)

This Confederate cavalry saber, designed for heavy slashing blows, features a brass basket hilt and a leather grip. The slight angling of the grip gave the swordsman greater leverage behind the blow. The cavalry of the Confederate states used sabers based on this model.

“
AS WE DASHED FIERCELY INTO THEM,
SABER IN HAND,
THEY BROKE LIKE A WAVE
ON THE BOWS OF A SHIP.”

UNION CAVALRYMAN DESCRIBING THE BATTLE
OF BRANDY STATION, VIRGINIA, 1863

CHARGING THE ENEMY

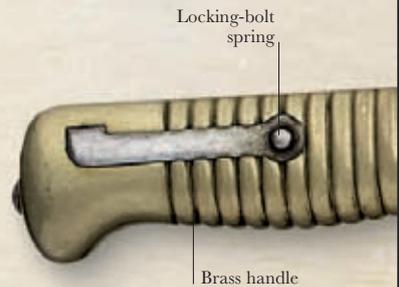
The first Battle of Bull Run (1861), also known as the first Battle of Manassas (Virginia), was a major land battle of the Civil War, won by the Confederate forces. In this scene, the Confederate cavalry is shown charging Union ranks, making downward slashing attacks with sabers similar to the one featured here.

Slightly curved,
single-edged blade



EUROPEAN AND AMERICAN BAYONETS

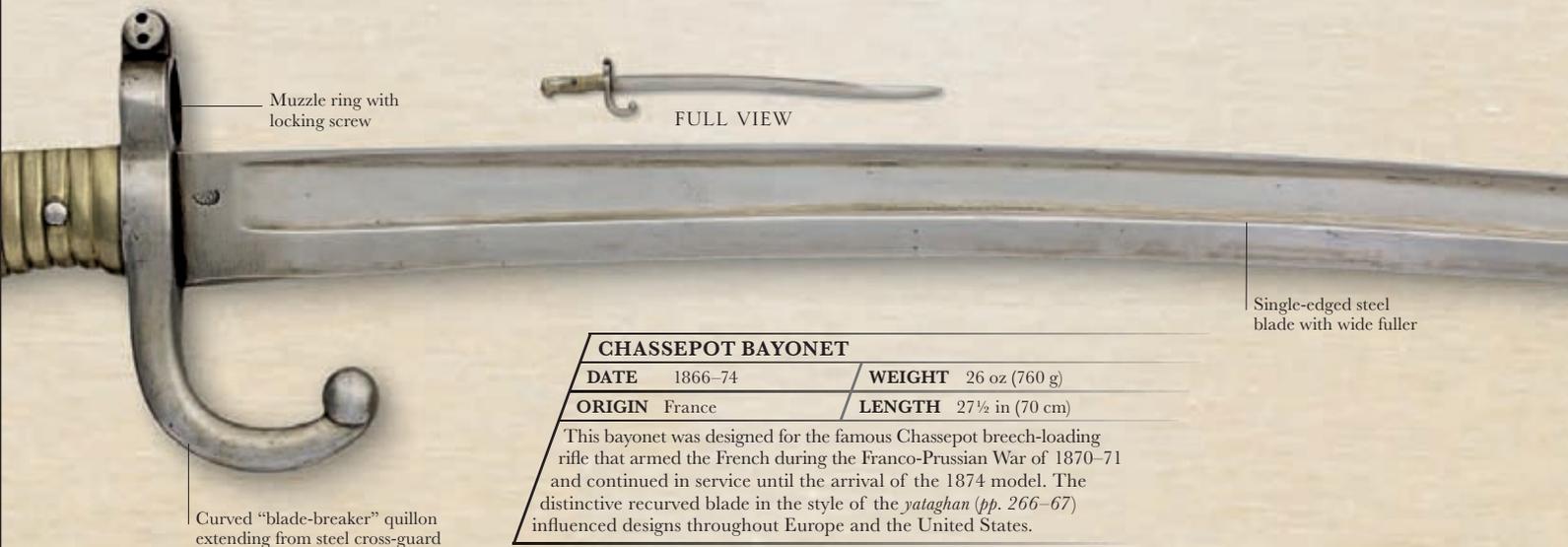
The sword bayonet, with its long blade, became increasingly popular in the 19th century, replacing the hanger sword and socket bayonet of the ordinary infantryman. However, the 19th century also saw the development of mass-produced, long-range firepower that rendered the bayonet irrelevant as a military weapon. Despite this, armies continued to place great emphasis on the bayonet, not least because it was believed to encourage an aggressive, offensive spirit among the infantry. It was this attitude that, in part, led to the mass slaughters of World War I, when soldiers with bayonets fixed were pitted against quick-firing artillery and machine guns.



VOLUNTEER INFANTRY SWORD BAYONET

DATE	1810	WEIGHT	18 oz (500 g)
ORIGIN	UK	LENGTH	30½ in (77.5 cm)

During the Napoleonic Wars (1799–1815), the regular British Army was equipped with the Baker rifle and its sword bayonet (*pp. 250–51*). Volunteer units, however, had to draw upon other sources for their rifles and bayonets. This sword bayonet, made for the London gunmaker Staudenmayer, features a gilded hilt and straight steel blade. Its knuckle guard would lock the rifle to the bayonet. This method rendered the weapon less effective than the Baker rifle and bayonet.

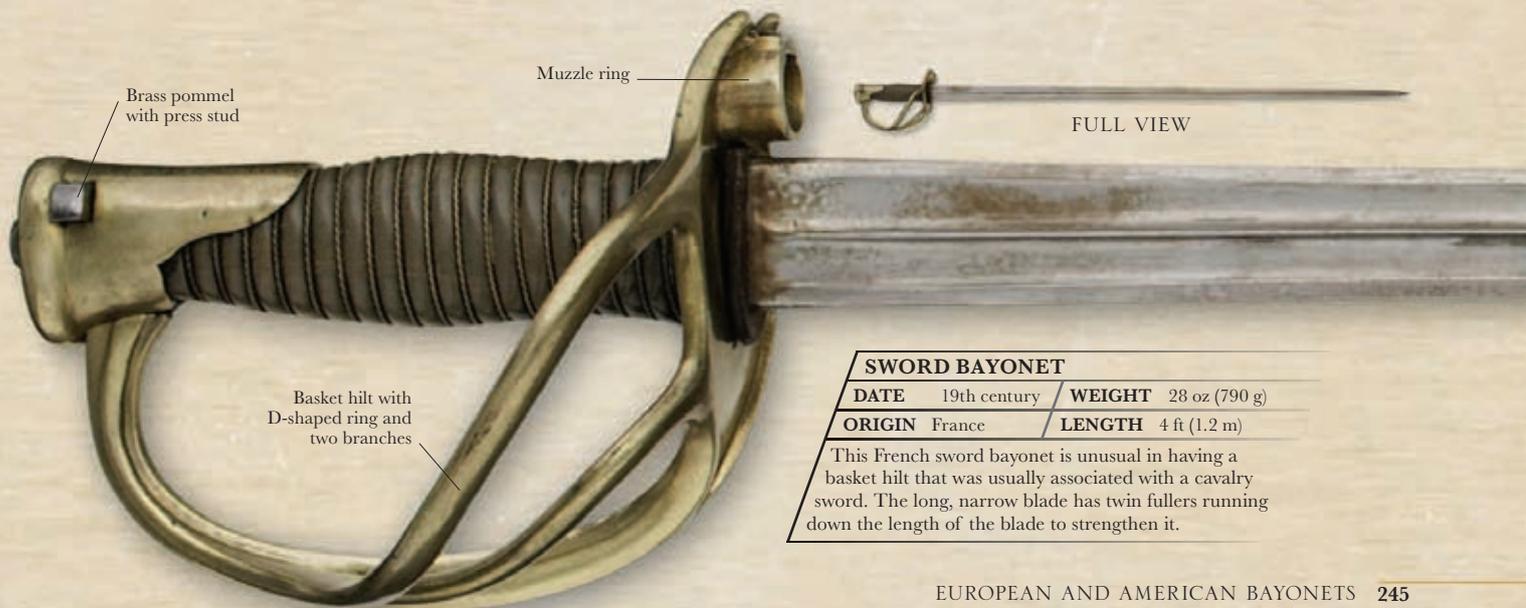


CHASSEPOT BAYONET

DATE 1866–74 / **WEIGHT** 26 oz (760 g)

ORIGIN France / **LENGTH** 27½ in (70 cm)

This bayonet was designed for the famous Chassepot breech-loading rifle that armed the French during the Franco-Prussian War of 1870–71 and continued in service until the arrival of the 1874 model. The distinctive recurved blade in the style of the *yataghan* (pp. 266–67) influenced designs throughout Europe and the United States.



SWORD BAYONET

DATE 19th century / **WEIGHT** 28 oz (790 g)

ORIGIN France / **LENGTH** 4 ft (1.2 m)

This French sword bayonet is unusual in having a basket hilt that was usually associated with a cavalry sword. The long, narrow blade has twin fullers running down the length of the blade to strengthen it.

ELCHO BAYONET

DATE 1870

WEIGHT 23 oz (650 g)

ORIGIN UK

LENGTH 25 in (64 cm)

While the British Army was conducting acceptance trials for a new rifle called Martini-Henry, Lord Elcho—the Ninth Earl of Wemyss and March—submitted this bayonet to go with the firearm. Elcho extended the bayonet's range of tasks to include those of hacking down brush and sawing wood.





Serrated edge for sawing wood

Broadened blade to chop through undergrowth

LATER ELCHO BAYONET

DATE	c. 1875	WEIGHT	22½ oz (640 g)
ORIGIN	UK	LENGTH	25 in (64.2 cm)

Despite initial success—and the arming of some infantry units—the Elcho bayonet was not taken up as an official model, since it was considered too expensive and ungainly. Even this later model, with a more conventional blade, failed to persuade the authorities in its favor.



Serrated edge for sawing wood

Conventional bayonet blade

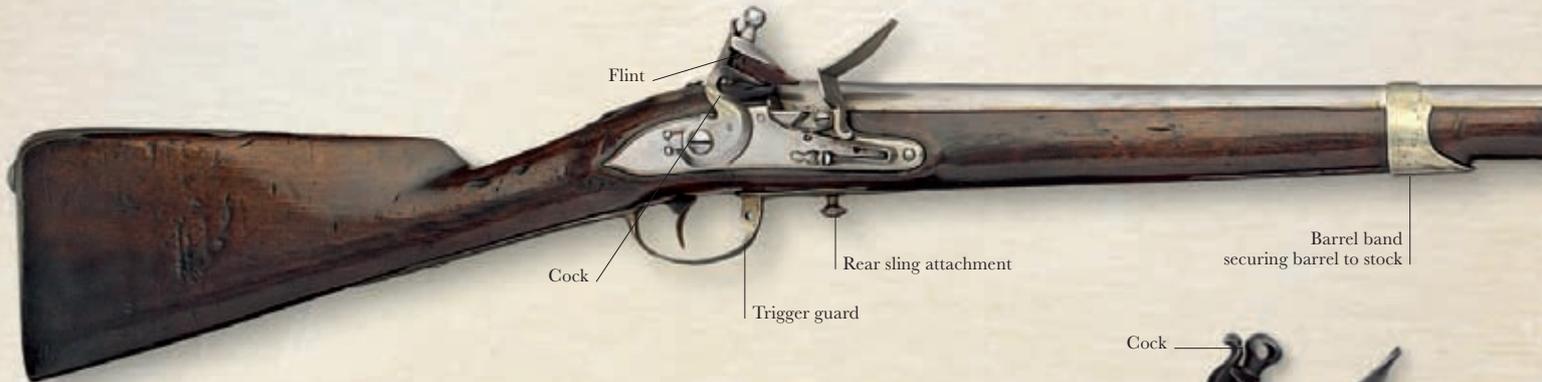
Locking collar incorporating bridge and mortise slot (socket to receive projecting muzzle)



TROWEL BAYONET

DATE	Late 19th century	WEIGHT	18 oz (500 g)
ORIGIN	USA	LENGTH	15 in (36.8 cm)

Designed to fit over the muzzle of the US 1873 “Trapdoor” Springfield rifle, this ingenious implement was intended as an entrenching or general digging tool, although it could also be used as a very broad-bladed bayonet. Constructed from metal, it has a blued finish.



POCKET PISTOL BAYONET

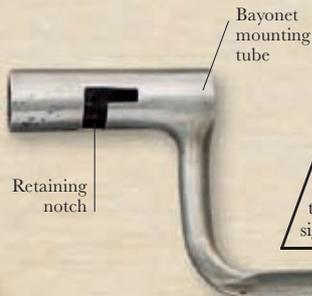
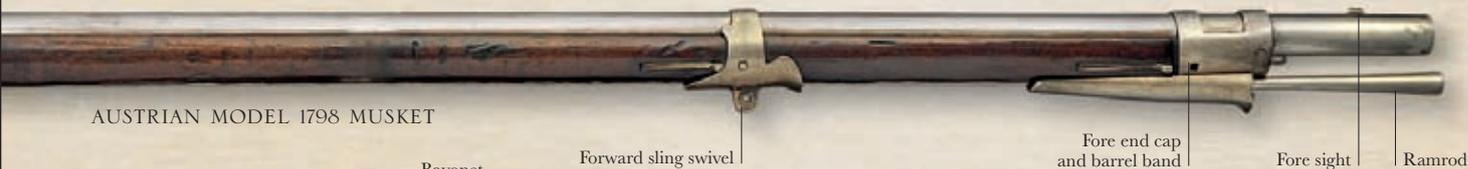
DATE	1800	WEIGHT	17 oz (478 g)
ORIGIN	Belgium	LENGTH	4¼ in (11 cm)

Short-barreled pistols replaced the sword as the gentleman's weapon of self-defense. Such pistols sometimes had a folded bayonet, which was released by pulling back the trigger guard. The bayonet was attached to the gun by a simple hinge, and a catch would spring open to lock the bayonet in place.



CHARLEVILLE MUSKET

AUSTRIAN MODEL 1798 MUSKET



AUSTRIAN MODEL 1798 BAYONET

DATE	1798	WEIGHT	c. 11 oz (300 g)
ORIGIN	Austria	LENGTH	c. 18 in (46 cm)

Socket bayonets were among the most important military technological inventions of the 18th century, permitting a musket to be fired with a bayonet fixed. This bayonet has a triangular cross-section and would add its length to the 3½ ft (1.1 m) length of the gun itself. It would slot around the musket's fore sight and sit above the muzzle, so it was not necessary to remove the ramrod.

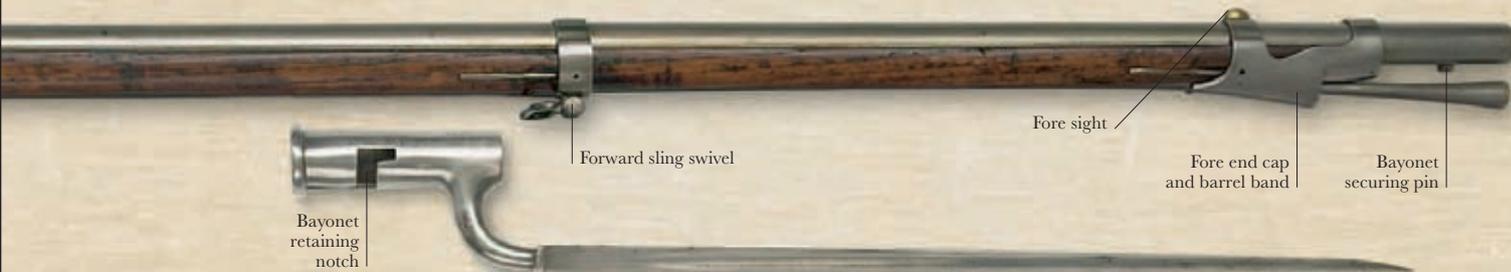
Triangular stabbing blade



CHARLEVILLE MUSKET BAYONET

DATE	1776	WEIGHT	c. 11 oz (300 g)
ORIGIN	France	LENGTH	c. 17 in (43 cm)

Introduced in 1754, Charleville muskets were modified a number of times and remained in service until the 1840s. With the bayonet in place, the total length of the gun from stock to bayonet tip was 5 ft (1.5 m), providing a useful means of keeping enemy soldiers at bay.

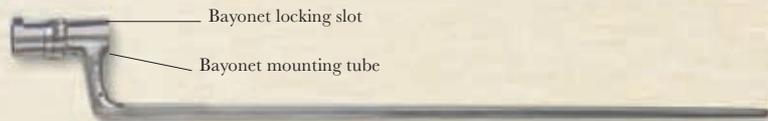




BAKER RIFLE

Brass butt plate

Box for patches and tools



Bayonet locking slot

Bayonet mounting tube



FUSIL REGLEMENTAIRE MLE 1853

Hammer

Nipple for percussion cap, a firearm ignition device

Stock

Rear sling swivel

Sling swivel to enable sling to stabilize aim

1853 SOCKET BAYONET

DATE	1850s	WEIGHT	16 oz (450 g)
ORIGIN	France	LENGTH	24 in (61 cm)

The French adopted the socket bayonet around the 1670s, and the success of its design meant that it soon spread to other European armies. This thin, spike-shaped bayonet, which armed the *fusil reglementaire* rifle, could deliver a deep, penetrating wound to the enemy. It has a simple two-step locking system, with a mounting tube measuring some 3–4 in (7.6–12.8 cm).



Hammer

Small of stock fits hand

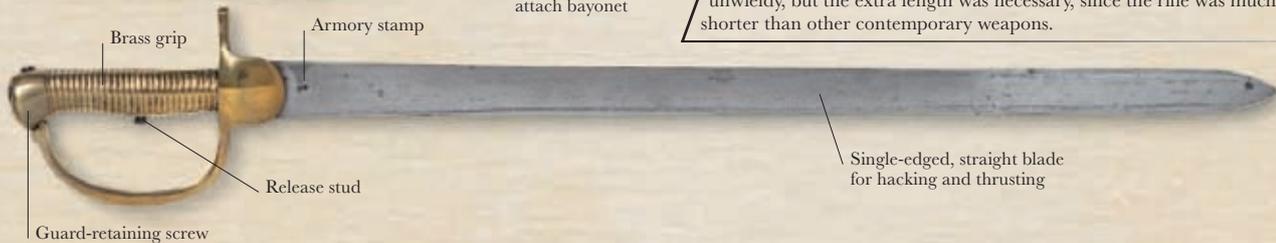
Attachment point for sling



SWORD BAYONET

DATE	1800	WEIGHT	16 oz (450 g)
ORIGIN	UK	LENGTH	24 in (61 cm)

The Baker rifle was supplied with a sword bayonet that could be used alone as a sword or mounted on the rifle. At 24 in (61 cm) long, it was unwieldy, but the extra length was necessary, since the rifle was much shorter than other contemporary weapons.



ENFIELD RIFLE-MUSKET BAYONET

DATE	1850s	WEIGHT	18 oz (500 g)
ORIGIN	UK	LENGTH	18 in (46 cm)

The socket bayonet for the British Pattern 1853 Rifle Musket, with its triangular-section blade, protruded almost 18 in (46 cm) beyond the muzzle. It required 44 separate manufacturing operations.



BAYONET TACTICS

Bayonets transformed the power of the ordinary foot soldier. By adding a bayonet to the musket, an infantryman could function both as a shooter and a pikeman (*pp.* 176–77), thereby gaining a tactical advantage over a nearly invincible cavalry.



Bayonets made an important contribution to the battlefield when they appeared during the 17th century. First, they provided an offensive capability—infantrymen could make

a bayonet charge at the enemy and break his lines. This was especially important since firepower alone was rarely decisive before the advent of rapid-fire weapons in the 19th century. The infantryman was typically trained to focus on parrying the enemy's thrust before driving the bayonet into his chest. Second, the bayonet could also be used as a defensive tool. Cavalry charges, for example, would be largely ineffective against tight, disciplined squares or lines of bayonet-armed infantry, since horses were reluctant to impale themselves on steel spikes.



FULL VIEW

MARTINI-HENRY SOCKET BAYONET

DATE	c. 1876	WEIGHT	16 oz (450 g)
ORIGIN	UK	LENGTH	25¼ in (64 cm)

Issued for use with the Martini-Henry rifle, the socket bayonet was lighter and cheaper than a sword bayonet (*p.* 251), but was equally efficient. It was attached to the muzzle of the rifle's barrel and held in place with a mortise slot and locking ring. Senior noncommissioned officers, however, continued to use the more prestigious sword bayonet.

“
THESE CORPS ATTACKED
WITH THE BAYONET AND DROVE THE ENEMY FROM
THE ADVANTAGEOUS GROUND.”

A BRITISH CAPTAIN, ON A BAYONET CHARGE AGAINST THE FRENCH,
BUSACO, 1810

BATTLE OF SOMAH

In this 1839 painting by Emile-Jean-Horace Vernet, bayonet-armed French infantry take on North African cavalry in Algeria in 1836. It illustrates how the bayonet could not only keep mounted troops at a distance, but also bring down mounts and riders.



NORTH AMERICAN HILT WEAPONS

Although wood and stone implements remained in use, by the late 18th century, Native Americans were purchasing and using weapons with metal blades or heads of European and Euro-American origin, which they often customized with decorative motifs. Many items shown here were not primarily designed for combat, but instead had a range of practical or symbolic uses, from hunting to performing religious rites. Yet tomahawks and clubs remained fearsome weapons in the hands of a skilled warrior.



SPEARHEAD KNIFE

DATE	c. 1900	WEIGHT	11 oz (300 g)
ORIGIN	USA	LENGTH	16 in (41 cm)

This knife was made by attaching a wooden handle to the head of a lance or spear—a common weapon for a Native-American warrior. The rawhide sheath, finely stitched with beadwork, was probably used with this knife, but not specifically made for it, hence, the difference in shape.

TRADE KNIFE**DATE** 19th century**WEIGHT** 20½ oz (560 g)**ORIGIN** USA**LENGTH** 15 in (38 cm)

Many thousands of European-made knives were traded with Native Americans, mostly in exchange for furs. This iron blade, attached to a shaped handle, was a far more effective tool than traditional stone implements. The deerskin sheath has been stitched using softened and dyed porcupine quills. The decorative tassels hang on one side of the sheath only, indicating that it would have been worn on the left side of the body.

Handle
made of
animal horn

Single-edged
iron blade

Deerskin
sheath

FULL
VIEW

SHEATH

BOWIE KNIFE

DATE c. 1820 / **WEIGHT** 18 oz (500 g)

ORIGIN USA / **LENGTH** 9½ in (25 cm)

The archetypal American blade, the Bowie knife was designed by Rezin P. Bowie, brother of Battle of Alamo hero James “Jim” Bowie. The knife, with its heavy butcher’s type blade, was initially used as a hunting tool, but later became popular as a self-defense weapon.



SHEATH



Hardwood handle

Straight cross-guard

Concave clip-point
(tip clipped to make it
thinner and sharper)

TLINGIT FIGHTING KNIFE

DATE 19th century / **WEIGHT** 18 oz (500 g)

ORIGIN USA / **LENGTH** 20 in (50 cm)

The Tlingit people of the northwest Pacific coast were skilled metalworkers, producing good-quality copper and iron blades. The handle of this knife is wrapped in leather and topped with a fine totem carving, which is inlaid with abalone shell. Fighting in close combat, the Tlingit warrior would wrap the loose leather strap around his wrist to ensure a secure hold upon the weapon.

Totem figure
of raven on
bear's head





Chape

Stylized fish carving



FULL VIEW

Haida Club

DATE 19th century

WEIGHT c. 4½ lb (2 kg)

ORIGIN USA

LENGTH c. 20 in (51 cm)

Living on islands off the northwest coast of North America, the Haida people fished from canoes. This wooden club was used to stun big fish as soon as they were hauled from the water before their struggles upset the canoe. Due to the lack of metals, the Haidas crafted wood into rudimentary blades; the head of the club was flattened rather than rounded to produce a narrow impact point. Unlike regular clubs, this one had a separate, distinctive hilt.



Heavy
iron blade



Leather strap
to lash onto
wrist in combat

PIPE TOMAHAWK

DATE c. 1890

ORIGIN USA

The idea of combining a peace pipe (ceremonial smoking pipe) and a war ax was dreamed up by Euro-American traders, but taken on by Native Americans with enthusiasm. They bought large numbers of these pipe tomahawks, making them a part of their culture. They were carried by Native American chiefs as symbols of prestige and exchanged as diplomatic gifts.



FULL VIEW



Carved wooden shaft



Birchwood club

Carving of lake scene



FULL VIEW

ANTLER SPIKE CLUB

DATE 18th/19th century

ORIGIN USA

The North American Indians manufactured a variety of spiked clubs, with spikes made from antler (as seen here), bone, or on occasion, steel. This two-handed war club is made of birchwood and crudely decorated with a scene showing a lake with three warriors nearby. Notches at each end may have been for tallying numbers of enemies or animals killed.

Antler spike



Iron
tobacco
bowl

Shaped rock
forms club head

Rock is lashed
to the handle

FULL
VIEW

PENOBSCOT STONE CLUB

DATE 19th century

ORIGIN USA

This stone club was used by the Penobscot Indians of Maine, in the northeastern United States. Clubs such as this would typically be used to finish off a wounded moose or deer that had been brought down by an arrow or a spear, although they may have been used in combat.

NORTH AMERICAN WARRIOR

Prior to their contact with European colonizers, Native-American warriors chiefly used weapons such as the bow, tomahawk, spear, and club. Even after the introduction of firearms in the 16th century, the Native Americans continued to fight in the more traditional ways, favoring ambushes and hit-and-run battles over the formal, ordered tactics of the European settler armies.



The Native-American way of war was largely based upon stealth, surprise, camouflage, and concealment. Many Europeans misinterpreted such tactics as underhanded and cowardly. By employing these tactics, however, the Native Americans could avoid sacrificing their already dwindling population and fight using the same techniques they used for hunting. During the 17th and 18th centuries, firearms became popular among Native-American tribes, although traditional weapons were still used in combat until the end of 19th century.

PIPE TOMAHAWK

DATE	c. 18th century	WEIGHT	c. 2¾ lb (1.2 kg)
ORIGIN	North America	LENGTH	c. 15 in (38 cm)

The tomahawk was a type of ax, used as both a utility tool and a weapon. Pipe tomahawks, such as the example shown here, had a tobacco bowl at the back of the axhead and a hollow handle, so they could be used as smoking pipes as well. Tomahawks were often thrown as missiles; the warriors calculated the right amount of spin to apply so that the blade, not the shaft, struck the target.



“ HE THREW HIS TOMAHAWK, AND
WITH SUCH FORCE
AND PRECISION, IT IMMEDIATELY
OPENED THE SKULL. ”

A BRITISH SOLDIER RECOUNTS A NATIVE-AMERICAN KILLING, c. 1827

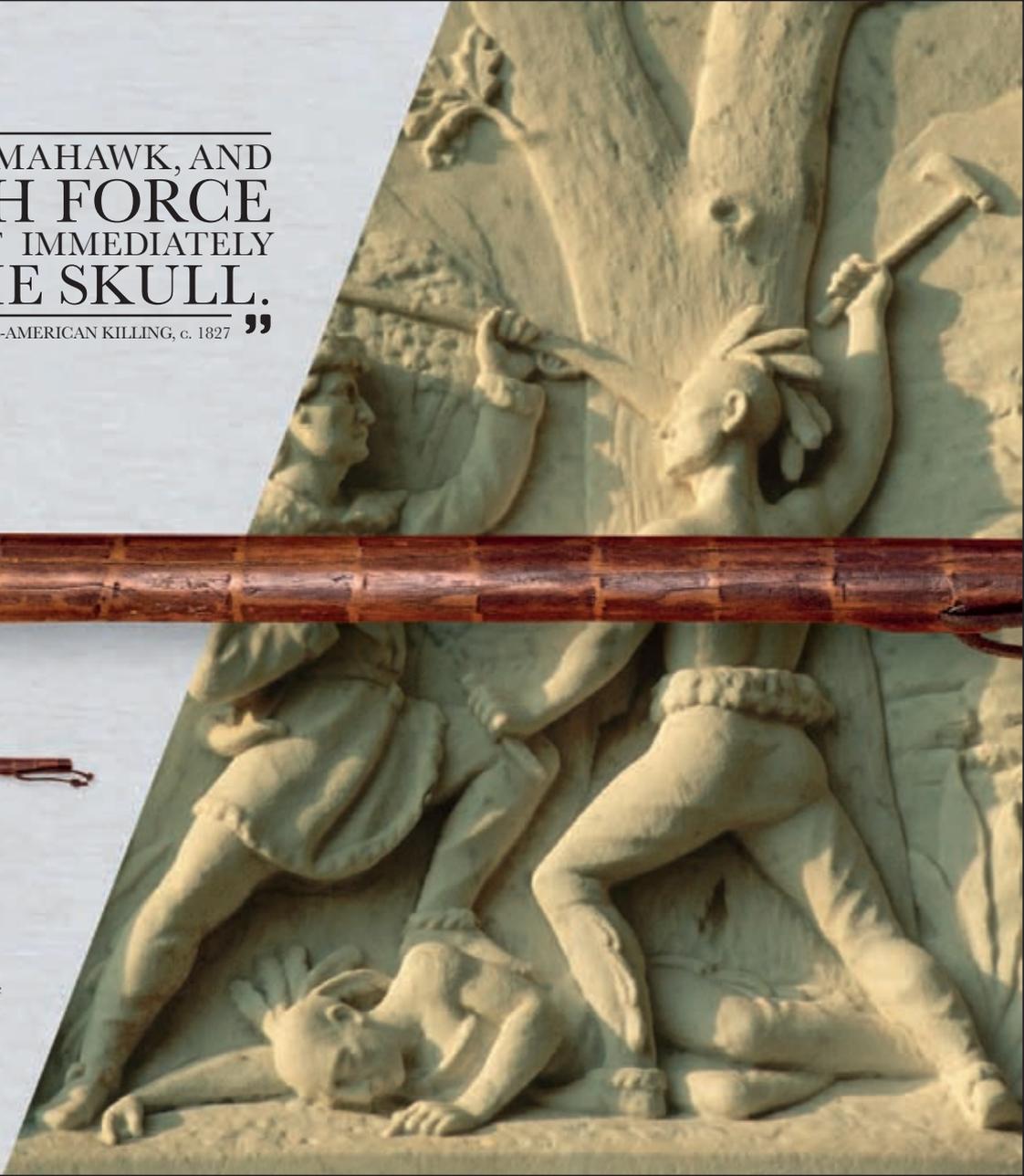
Hollowed-out handle



FULL VIEW

TOMAHAWK FIGHT

This detail from the grave marker of American pioneer and hunter Daniel Boone (1734–1820) shows him fighting a Native American. The scene depicts both old and new weaponry—the warrior wields a tomahawk and a dagger, while Boone is armed with a hunting musket.



OTTOMAN EMPIRE SWORDS

The Ottoman Empire, at its height from the 15th to the 17th century, was founded by Turks who migrated to Anatolia (now in Turkey) from Central Asia. Their curved swords reflect these origins, being derived from the Central Asian Turko-Mongolian saber of the 13th century. Europeans first encountered these blades in wars with the Ottomans and called them scimitars (a term used to refer collectively to curved Asian swords). Many of the swords shown here date from the 19th century but are typical of the Ottoman Empire at its peak. Similar weapons were used across the Islamic world, from North Africa to Persia and India.



PERSIAN KILIJ

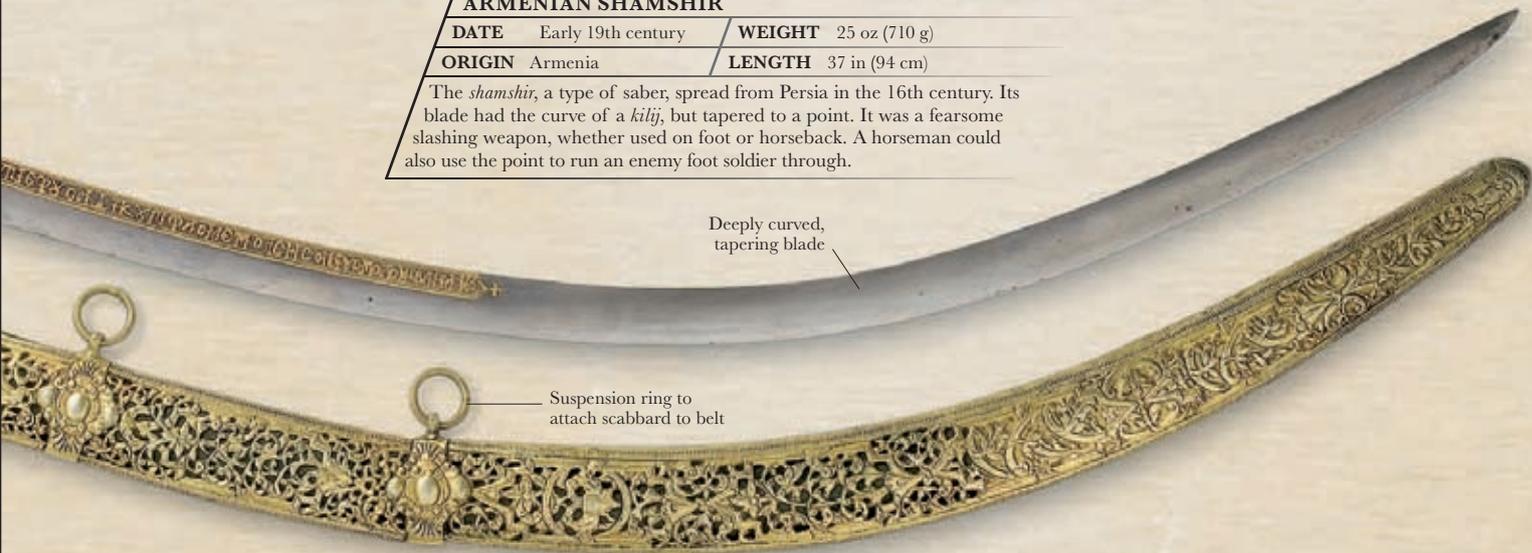
DATE	Early 19th century	WEIGHT	21 oz (600 g)
ORIGIN	Persia	LENGTH	32 in (81 cm)

Persian craftsmen were acknowledged masters of sword-making. The *kilij* was first used in the Ottoman Empire in the 15th century. Over time, its blade showed many variations. This example has a deep curve cut away along its back edge, and has a distinctive flared tip called a *yelman*.

ARMENIAN SHAMSHIR

DATE	Early 19th century	WEIGHT	25 oz (710 g)
ORIGIN	Armenia	LENGTH	37 in (94 cm)

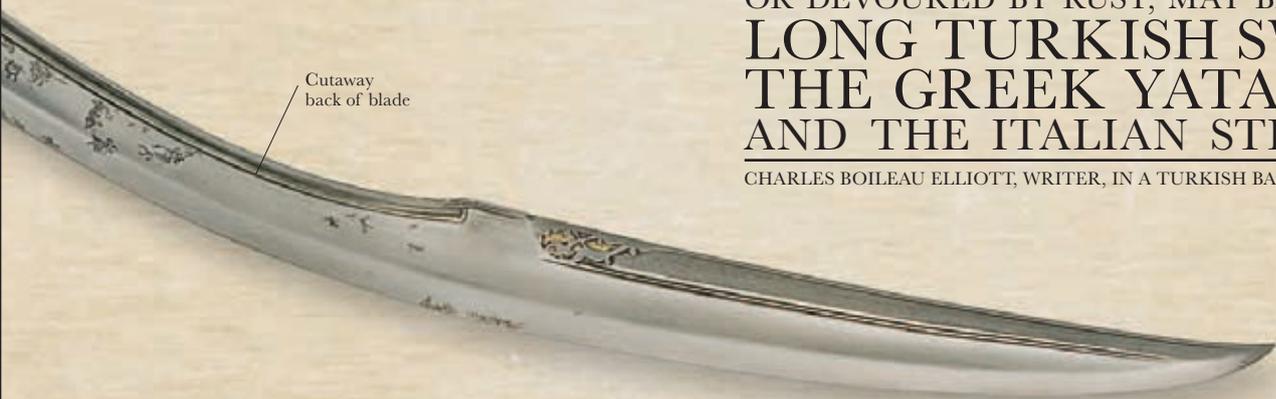
The *shamshir*, a type of saber, spread from Persia in the 16th century. Its blade had the curve of a *kilij*, but tapered to a point. It was a fearsome slashing weapon, whether used on foot or horseback. A horseman could also use the point to run an enemy foot soldier through.



Deeply curved,
tapering blade

Suspension ring to
attach scabbard to belt

SCABBARD



Cutaway
back of blade

“ HERE, SPARKLING WITH BRILLIANTS OR DEVoured BY RUST, MAY BE SEEN THE LONG TURKISH SWORD, THE GREEK YATAGHAN, AND THE ITALIAN STILETTO...”

CHARLES BOILEAU ELLIOTT, WRITER, IN A TURKISH BAZAAR, 1837 ”



Chape embossed with flowers and foliage

SCABBARD



Forward-curving blade

Single edge of hard tempered steel

TURKISH SABER

DATE	Early 19th century	WEIGHT	28 oz (810 g)
ORIGIN	Turkey	LENGTH	38 in (96 cm)

This ornate Ottoman sword bears the name of Haji Gafur, the master swordsmith who made its blade. Swords in the Islamic world were frequently inscribed with prayers and texts from the Koran. This blade widens out at the end into a double-edged section.



Grip decorated with precious stones



Silver band



Hilt has no guard

Distinctive grip plaques flare into "wings" or "ears"



Gold inscription from the Koran

Turquoise set into scabbard

SCABBARD

TURKISH YATAGHAN

DATE	Mid-19th century	WEIGHT	21 oz (600 g)
ORIGIN	Turkey	LENGTH	29 in (74 cm)

A *yataghan* has a forward-curving blade known as a *kopis* blade, after the ancient Greek sword of that name (p. 29). The *yataghan* is similar to the Indian *sosun pattah* (p. 291) and the Nepalese *kukri* (pp. 334-35). This late Ottoman example is identical in style to those used when the empire was at its height. The wooden scabbard is clad in leather.

OTTOMAN WARRIOR

From the 14th to the 18th centuries, the Ottoman army of the Turkish sultans was one of the most professional military forces in the world. Well trained and skilled, the Ottoman warrior used the *kilij* (a curved sword) with deadly precision.



There were many different types of soldier in the Ottoman army. The slave-soldier janissaries—part of the sultan’s standing army—acted as elite infantry, in

contrast to the dispensable *azab* foot soldiers. Ottoman cavalry ranged from heavy shock troops to light scouts. Yet all were bound together as a unified, disciplined, tactically intelligent whole. The Ottoman warriors were feared for their proficiency with weapons, particularly the *kilij* seen here. This curved sword had a flaring tip called a *yelman* or “false edge” that enhanced its cutting power and could sever a head with a single stroke. Cavalry used either these swords or long spears, and protected themselves with long coats of chain mail and helmets.



FEARLESS CAVALRY

This painting shows Ottoman troops setting out for conquest. Cavalry soldiers were experts in wielding the *kilij* as well as lances and bows. They would aim strikes at the skull, neck, and face of the enemy, using the speed of the horse to add power.

“
MAY YOUR BLADE BE
VICTORIOUS OVER
THE NECKS OF
YOUR FOES.”

INSCRIPTION ON A 16TH-CENTURY OTTOMAN SWORD ”

KILIJ

DATE 1625

WEIGHT c. 21 oz (600 g)

ORIGIN Ottoman Empire

LENGTH c. 32 in (81 cm)

This Ottoman *kilij* is representative of the classic Ottoman sword up to the 19th century. Its trademark curved blade is inscribed with a quotation from the Koran on the ricasso. It has a rounded hilt made of rhinoceros horn. The cross-guard reinforces the blade, and the wooden scabbard is overlaid with silver gilt.



Silver-covered hilt



SAIF

DATE	Late 18th century	WEIGHT	25 oz (700 g)
ORIGIN	North Africa	LENGTH	33 in (83.5 cm)

Saif is an Arabic word for sword. This example is from North Africa, which was part of the Ottoman Empire from the 16th century. Unlike a *shamshir* (p. 263), it does not taper to a point, and the blade's curve is shallow. The knuckle guard is made of four silver chains.



Sheet-silver covering on wooden scabbard

WESTERN TROOPS AND OBSERVERS
WERE STILL ENCOUNTERING
TURKISH BLADES
IN COMBAT WELL INTO
THE 20TH CENTURY.





Narrow fuller
on back of blade

SCABBARD



Silver-coated hilt inlaid
with coral and turquoise



SCABBARD

OTTOMAN QUAMA

DATE	19th century	WEIGHT	25 oz (700 g)
ORIGIN	Turkey	LENGTH	24 in (61 cm)

Quama is a short sword, called a *kinjal* in the Caucasus and a *kama* in Georgia. It is also known as a Cossack dagger. This example, with its splendidly decorated hilt and scabbard, was designed to display its owner's wealth and status.

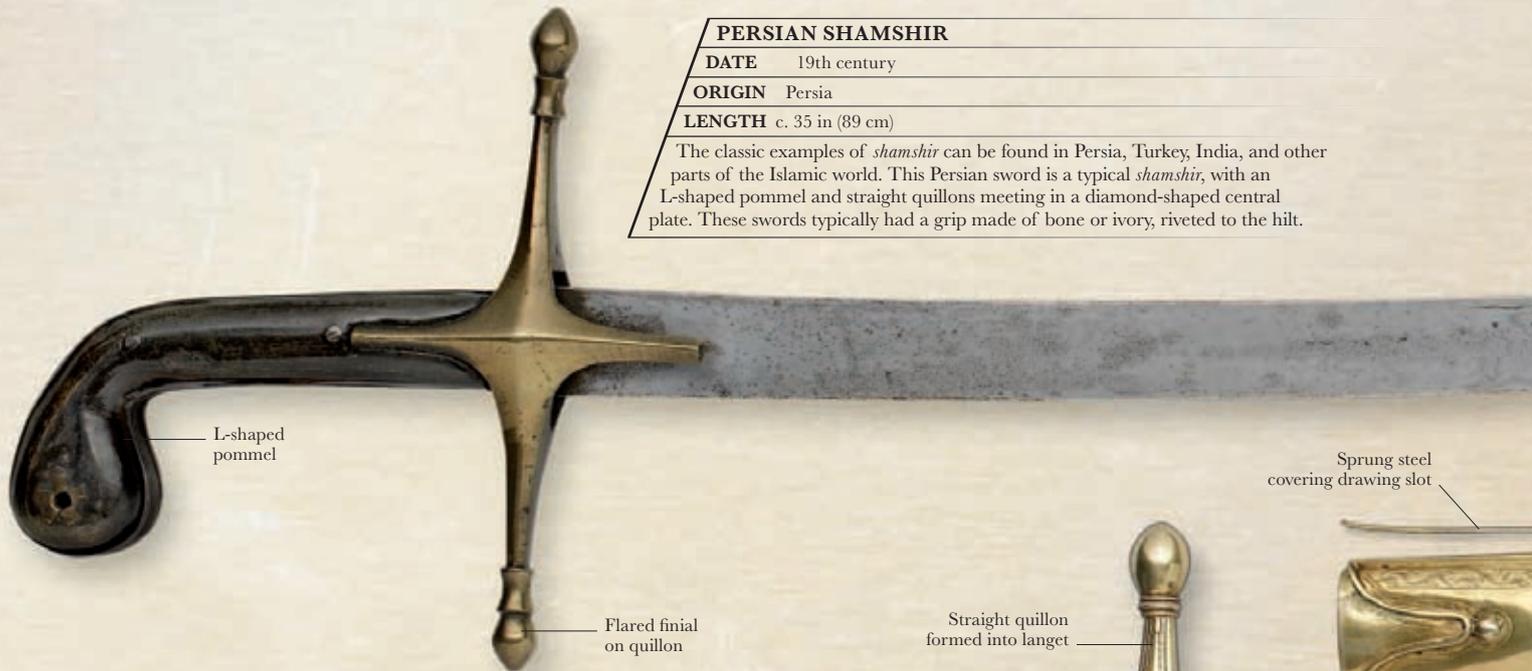
PERSIAN SHAMSHIR

DATE 19th century

ORIGIN Persia

LENGTH c. 35 in (89 cm)

The classic examples of *shamshir* can be found in Persia, Turkey, India, and other parts of the Islamic world. This Persian sword is a typical *shamshir*, with an L-shaped pommel and straight quillons meeting in a diamond-shaped central plate. These swords typically had a grip made of bone or ivory, riveted to the hilt.



L-shaped pommel

Flared finial on quillon

Straight quillon formed into langet

Sprung steel covering drawing slot

KILIJ

DATE Unknown

ORIGIN Ottoman Empire

LENGTH c. 35 in (89 cm)

The *kilij*, or *kilic*, is very similar to the *shamshir*, but its blade was generally broader and widened as it neared the tip. The scabbards of these swords were often specially adapted, with a slot cut into the back of the scabbard and covered with sprung steel. Without this feature, it would have been extremely difficult to draw such a highly curved blade.

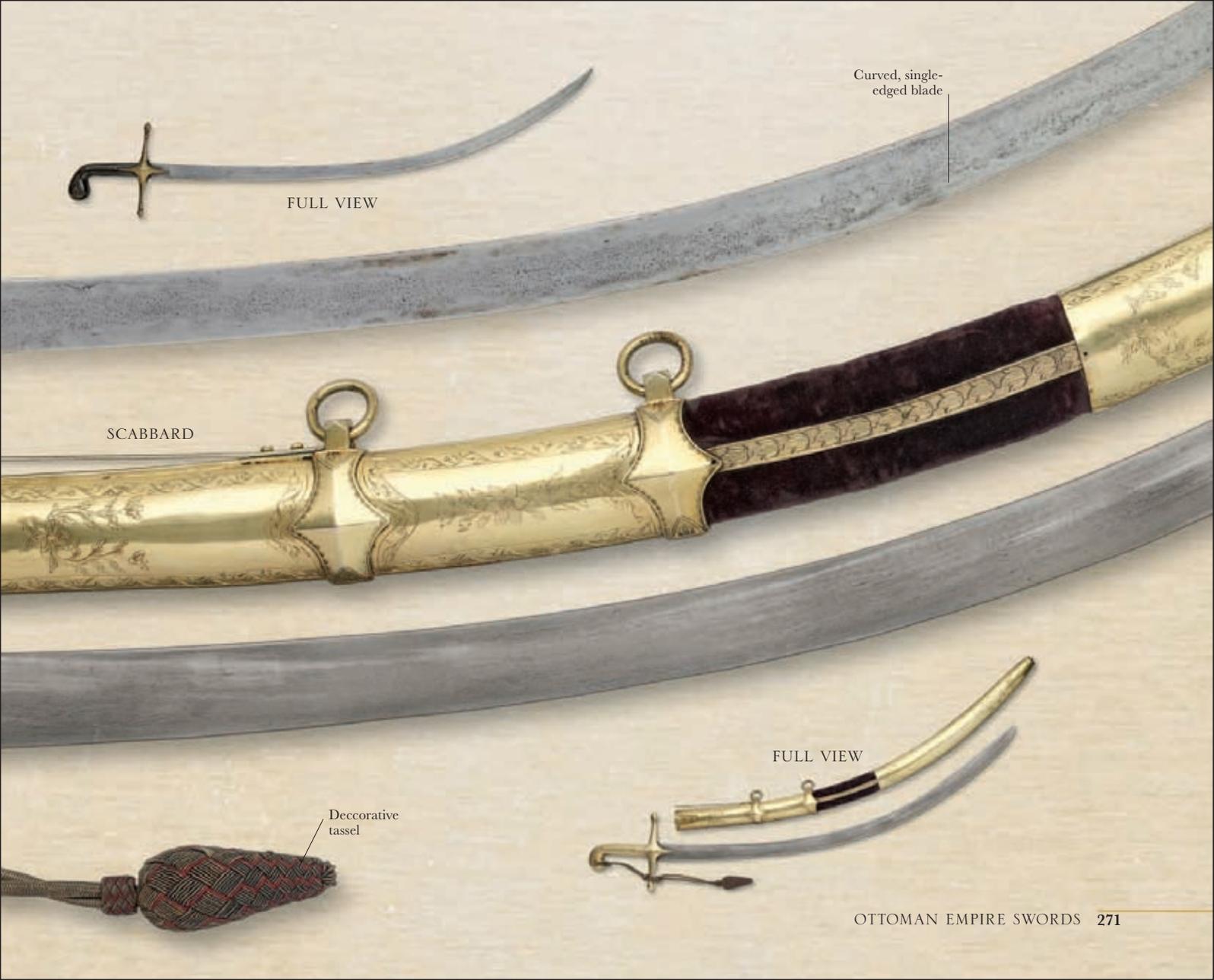


Pommel features cord loop



FULL VIEW

Curved, single-edged blade



SCABBARD



Decorative tassel



FULL VIEW

CHINESE AND TIBETAN SWORDS

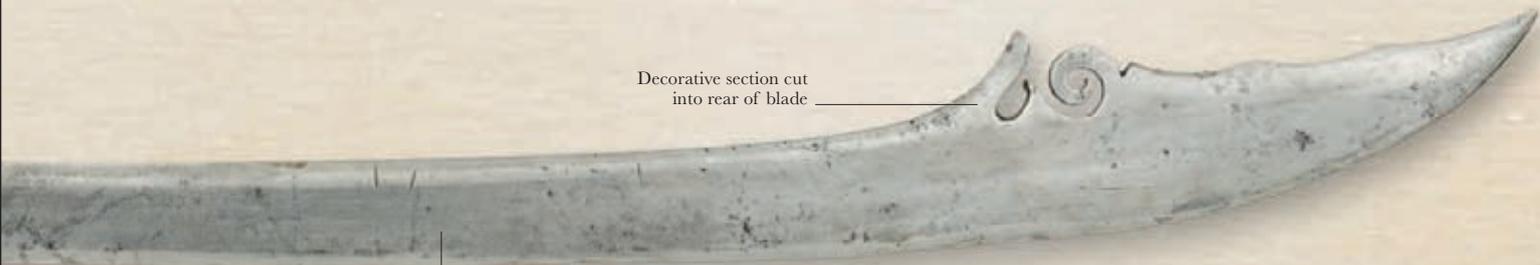
For the Chinese, the four major weapons of a warrior were the staff, the spear, and two swords—the single-edged *dao* and the double-edged *jian*. While the straight-bladed *jian* was the more prestigious of the two, the curved *dao* was more practical and easier to use. As in Europe, by the 19th century, swords in China were fast becoming ceremonial items. The military tradition of Tibet is often forgotten, but the Tibetans fought many wars and developed their own significant tradition of manufacturing swords, which were loosely related to Chinese models.

CHINESE DAO

DATE	17th century	WEIGHT	19 oz (520 g)
ORIGIN	China	LENGTH	25¼ in (64 cm)

This short *dao* has a near-straight blade known as *yanmaodao* (goose-quill knife), which was in use until the 20th century. Its single edge was used for slashing and its point for thrusting at an opponent. The blade was made of multiple layers, similar to Japanese swords. The core of hard steel, which was exposed at the cutting edge, was sandwiched between layers of softer steel.





Decorative section cut
into rear of blade

Single-edged blade

DADAO

DATE 19th century / **WEIGHT** c. 3 $\frac{1}{3}$ lb (1.5 kg)

ORIGIN China / **LENGTH** c. 30 in (76 cm)

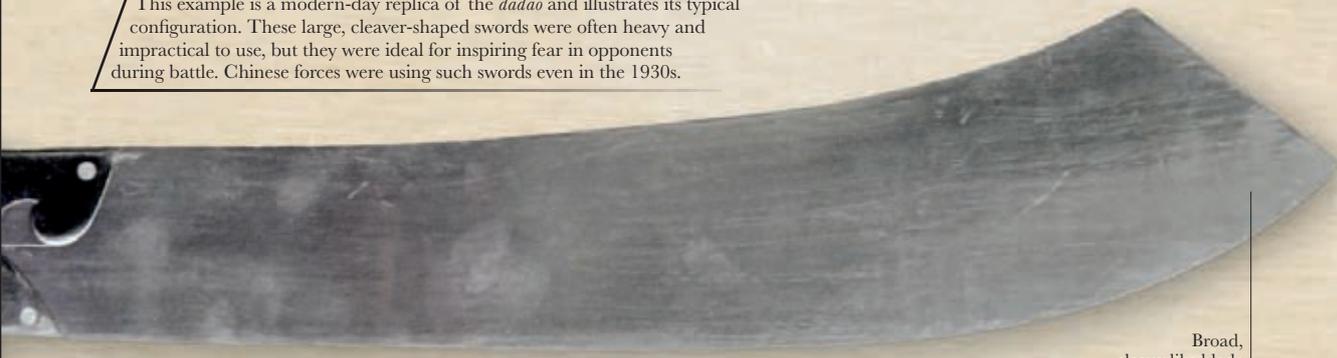
This example is a modern-day replica of the *dadao* and illustrates its typical configuration. These large, cleaver-shaped swords were often heavy and impractical to use, but they were ideal for inspiring fear in opponents during battle. Chinese forces were using such swords even in the 1930s.

CHINESE BROADSWORD

DATE 18th century / **WEIGHT** c. 2 $\frac{3}{4}$ lb (1.25 kg)

ORIGIN China / **LENGTH** c. 3 $\frac{1}{4}$ ft (1 m)

This hefty Chinese broadsword essentially follows the classic pattern of the *niuxweidao* (ox-tailed sword), which featured a deep, curved blade with a flared tip. Primarily meant for civilian use, this type of sword was issued during the Manchu Qing dynasty (1644–1912).



Broad,
cleaverlike blade

Softer-steel back of blade



CHINESE JIAN

DATE 1736–95 / **WEIGHT** 2¼ lb (1.25 kg)

ORIGIN China / **LENGTH** 3½ ft (1.07 m)

With its straight, double-edged blade, the *jian* was the weapon chosen by Chinese swordsmen to show off their skills. It was also worn by high officials as part of their ceremonial regalia. This *jian* dates from the reign of Emperor Qianlong (r. 1735–96), the fourth emperor of the Manchu Qing dynasty (1644–1912).

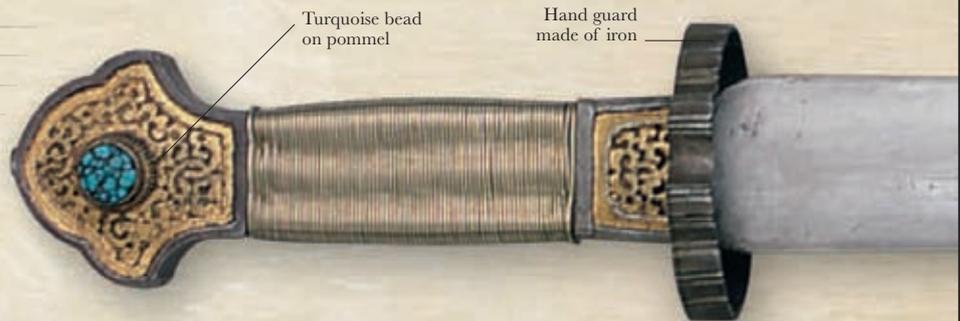


TIBETAN SWORD

DATE 18th century / **WEIGHT** 34 oz (950 g)

ORIGIN Tibet / **LENGTH** 3¼ ft (1 m)

The long blade of this Tibetan sword exhibits elaborate, swirled patterns of mixed steel on both faces. The highly decorated pommel and the grip wrapped in silver wire indicate that the sword was meant for an individual of high status.



Leather
strap



FULL VIEW



SCABBARD



Diamond cross-section
blade, with a ridge on
each face

Double-edged blade

Silver inlay
decoration



FULL VIEW

Straight, single-edged,
mixed-steel blade

CHINESE JIAN

DATE 19th century	WEIGHT 2¼ lb (1 kg)
ORIGIN China	LENGTH 30¾ in (77.8 cm)

In the 19th century, the declining Qing Empire was trying to develop firearms to match those of the European armies. Nevertheless, swords continued to be in use as weapons and ceremonial arms. This sword has the diamond cross-section of the traditional *jian* blade.

Embossed silver pommel

Engraved and lacquered grip

Central ridge

TIBETAN SWORD

DATE 19th century	WEIGHT 2¼ lb (1 kg)
ORIGIN Tibet	LENGTH 38½ in (98 cm)

A large and elaborate sword with a poor-quality blade, this weapon was undoubtedly intended for ceremonial use. The scabbard, which is made of wood and covered in brown leather, is finely decorated with silver, gilding, and coral.

FULL VIEW

Silver-sheet quillon block



Silver fittings on scabbard

SCABBARD

Embossed end cap made of silver



Embossed gilded panel

SCABBARD

Coral bead

Single cutting edge is irregular and crudely angled



Black lacquered grip

Small, circular
ring guard

LIUYEDAO

DATE c. 17th–18th century / **WEIGHT** c. 32 oz (900 g)

ORIGIN China / **LENGTH** c. 36 $\frac{2}{3}$ in (93 cm)

The *liuyedao* was a gently curved, saberlike weapon used in China from the 14th to the 20th centuries. A single-edged weapon generally wielded by cavalry, it was primarily a slashing rather than a thrusting weapon. However, in some *liuyedaos*, the back-edge near the tip was also sharpened for penetration.

SHUANJIAN

DATE 18th century / **WEIGHT** c. 11 oz (300 g)

ORIGIN China / **LENGTH** c. 16 in (40.5 cm)

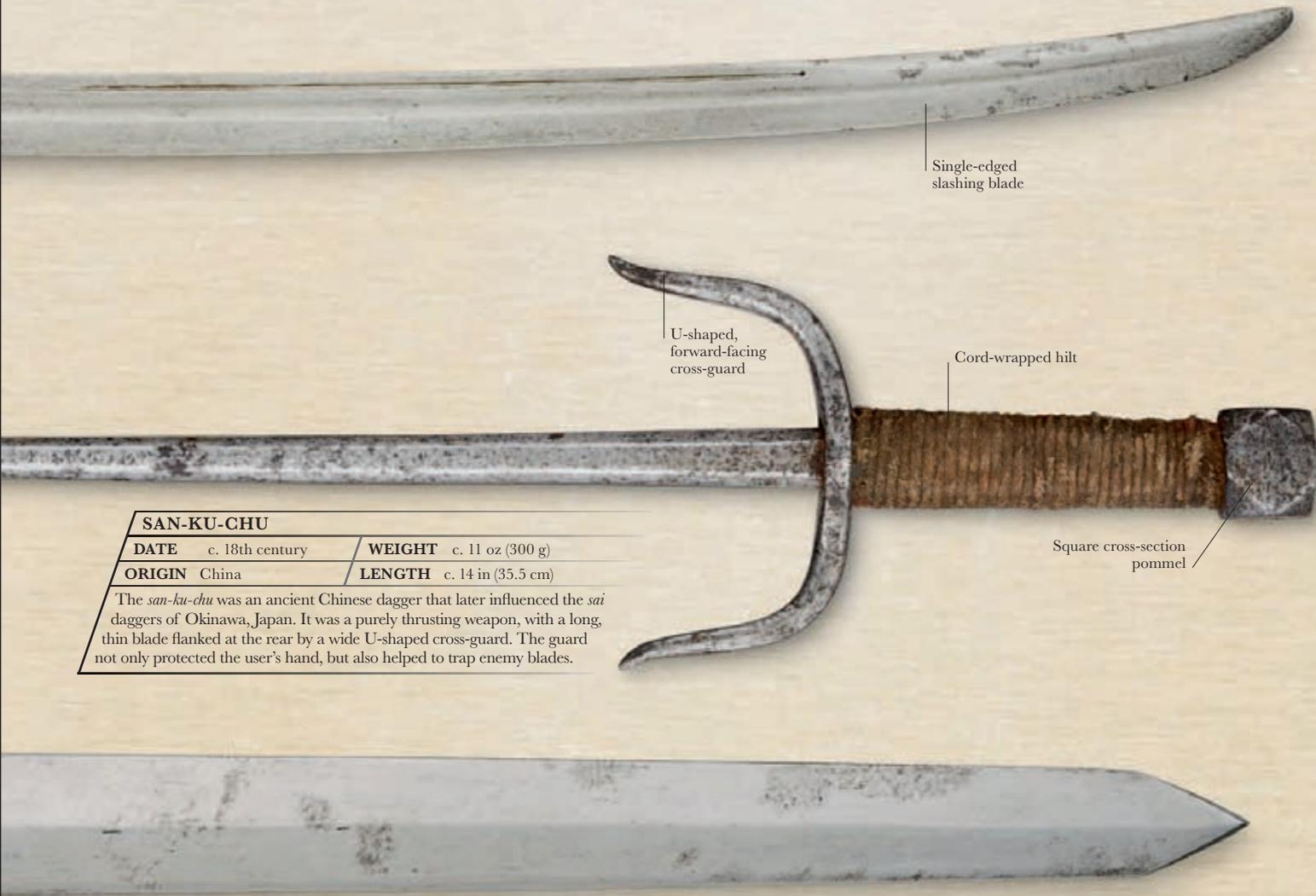
This blade was actually one of a set of paired swords, or *shuangjian*, both contained in the same scabbard. The fighter would wield the two swords at the same time, one in each hand. Such a style of fighting required cutting and thrusting qualities from the sword, so the blade is double-edged but also has a fairly sharp point.



Short, backward-facing
quillon

Diamond
cross-section blade





Single-edged
slashing blade

U-shaped,
forward-facing
cross-guard

Cord-wrapped hilt

Square cross-section
pommel

SAN-KU-CHU

DATE c. 18th century

WEIGHT c. 11 oz (300 g)

ORIGIN China

LENGTH c. 14 in (35.5 cm)

The *san-ku-chu* was an ancient Chinese dagger that later influenced the *sai* daggers of Okinawa, Japan. It was a purely thrusting weapon, with a long, thin blade flanked at the rear by a wide U-shaped cross-guard. The guard not only protected the user's hand, but also helped to trap enemy blades.

NINJA

The origins of the ninja—specially trained covert agents of feudal Japan—are lost in time and legend. Few texts mention them before the 15th century, but from then on, these shadowy figures played a central role in the world of Japanese politics and warfare. They were employed by feudal lords in a variety of roles, ranging from sabotage to supporting military campaigns. The last mention of ninja in battle was during the time of Tokugawa Iemitsu (1604–51), a *shogun* (commander) of the Tokugawa clan. Ninja continued to operate covertly until the end of the 18th century, by which time political stability in Japan meant that there was little use for their lethal skills. Yet their techniques lived

on, in various manuals of covert warfare written in the 17th and 18th centuries. These techniques were later codified in *ninjutsu*, a form of martial arts characterized by stealth and camouflage.



The ninja utilized an unusual range of weaponry that reflected their covert roles. This included classic Japanese swords, such as the *tachi* (pp. 194–95), as well as a variety of specialized weapons such as *shurikens* (pp. 284–85). Some weapons, such as the *ninjato* shown below, are possibly the invention of modern Hollywood, but have become an integral part of modern *ninjutsu*.



Kashira
(pommel)

Braided
silk grip

Square
cross-guard

Straight,
single-edged blade

NINJA BECAME MYTHOLOGIZED IN LATER HISTORY,
GRANTED MYSTICAL SKILLS
RANGING FROM INVISIBILITY TO
POWERS OF FLIGHT.

NINJATO

DATE Unknown	WEIGHT c. 15 oz (420 g)
ORIGIN Japan	LENGTH c. 19 in (48 cm)

One of several swords attributed to the ninja, the *ninjato* was probably a shorter and cheaper version of the *wakazashi* (pp. 198–203) and had a slightly curved blade. Modern replicas, such as this example, often have straight blades and square cross guards. Many believe that these features are Hollywood inventions, although the modern ninjato swords do resemble the medieval Japanese *chokuto* straight sword.

ASSASSINATION BY STEALTH

The origin of the term *ninja* has sometimes been attributed to the semi-legendary 4th-century Japanese prince, Yamato Takeru, of the Yamato dynasty. This 19th-century painting shows Yamato attacking a man with a short, straight-edged blade, which is similar to the modern *ninjato* blade.



JAPANESE SPECIAL WEAPONS

The covert operations of the Ninja (*pp.* 280–81) required a variety of specialized weapons beyond the classic sword. Throwing weapons such as *shuriken*, meaning hand-hidden blade, were used as basic missiles and could be tipped with poison to make them lethal—without this, these weapons would actually cause only minor injuries. Chain weapons combined lengths of chain with blades, iron balls, or hardwood shafts, enabling them to cut, entangle, or strike. This gave the warrior some tactical advantage if confronted with a conventionally armed samurai.

KUSARIGAMA

DATE 18th century

ORIGIN Japan

The chain and blade, or *kusarigama*, was used to entangle the enemy or his weapon, making it possible to draw him in and stab him. The weighted end of the chain was swung over the head, and then whipped toward the enemy. Sometimes the weight itself proved lethal. The weapon shown here also features a thick iron finger guard and brass reinforcing rings along the shaft.





**THE CHAIN WRAPPED
AROUND THE ENEMY'S ARM ... THE BLADE
THEN KILLED HIM.**

BO SHURIKEN

DATE c. 18th century

ORIGIN Japan

Thrown from a distance, a *bo shuriken*, meaning stick blade, was a long metal spike with one or both ends sharpened. It could be thrown in a variety of ways: underarm, overarm, sideways, or backward; and with or without spin.



Cord binding provides a grip

Flared center for extra penetration

HARIGATA SHURIKEN

DATE c. 18th century

ORIGIN Japan

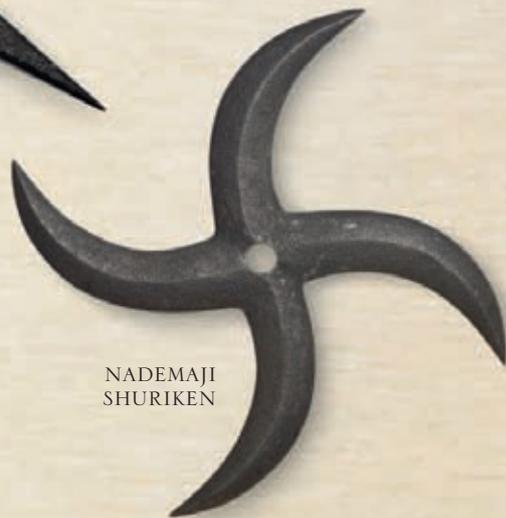
Harigata means needle-shaped, and these *shuriken* were probably so called due to their resemblance to the thick needles used for stitching leather armor. Although they had the potential to be thrown, they were more often gripped and used as easily concealed stabbing weapons.



JUJI SHURIKEN



HAPPO SHURIKEN



NADEMAJI SHURIKEN



JUJI SHURIKEN

SPIKED SHURIKEN

DATE 18th–19th century

ORIGIN Japan

DIAMETER c. 3–4 in (7.6–10 cm)

There are a variety of different small, circular, spiked *shuriken*, which have sharpened points projecting out on all sides from a central ring. As throwing weapons, the spiked *shuriken* were most effective over a 33-ft (10-m) range, and were often thrown into doors and walls to distract and intimidate the enemy.



HAPPO SHURIKEN



MIKAZUKI SHURIKEN



FULL VIEW

TETSUBISHI

DATE 18th–19th century

ORIGIN Japan

Small, spiked devices known as *tetsubishi* were used to aid escape. In a manner similar to the Western caltrop (a star-shaped, small, spiked weapon), they would be scattered on the ground to slow down an enemy in pursuit. The sharp spikes were easily capable of penetrating boot leather or inflicting severe injury to a horse's hooves.

Tips sometimes coated in poison

KENJUTSU

Literally meaning the art of the sword, *kenjutsu* refers to the traditional Japanese art of swordfighting, practiced by the samurai since the 4th century CE. The proponents of *kenjutsu* set up several major schools between the 14th and 16th centuries, but during the later Edo period (1603–1868), the number of schools spread dramatically, as the warrior class sought to preserve its skills with swords, such as the *katana* shown here.



During the 19th century, practitioners of *kenjutsu* began to train with wooden swords—known as *bokken*—which were roughly the same size, weight, and shape of the *katana*. This move enabled the fighters to engage one another more

realistically, delivering full-power blows without the risk of death or serious injury. In the late 1860s, public interest in *kenjutsu* began to decline, possibly because of the growing domination of firearms. However, the Japanese military and police revived interest in swordfighting skills, ensuring that the ancient art form survived into the 20th century.



Kenjutsu or *kendo*—its modern-day equivalent—emphasizes speed, fluidity, and balance in its techniques. Footwork is essential for both movement and the power of the cut. A fighter's goal is to end the combat as quickly as possible, targeting areas such as the neck, forearms, head, and abdomen. Practice mainly consists of *kihon* (basic techniques) and *kata* (sequences of techniques), either solo or in pairs, graduating to free-form *kumite* (sparring).



THE GOAL OF THE PRACTITIONER IS
TO DRAW THE SWORD AND
STRIKE THE OPPONENT
A LETHAL BLOW
IN ONE SWIFT MOVEMENT.

WAY OF THE WARRIOR

This 14th-century painting of the battle of Rokuhara (12th century) depicts Japanese swordsmen in action. While many Japanese swordfighting skills acquired an aura of Eastern mysticism during the 20th century, the *kenjutsu* schools still emphasize the simple principles of drawing the sword fast and killing the opponent.

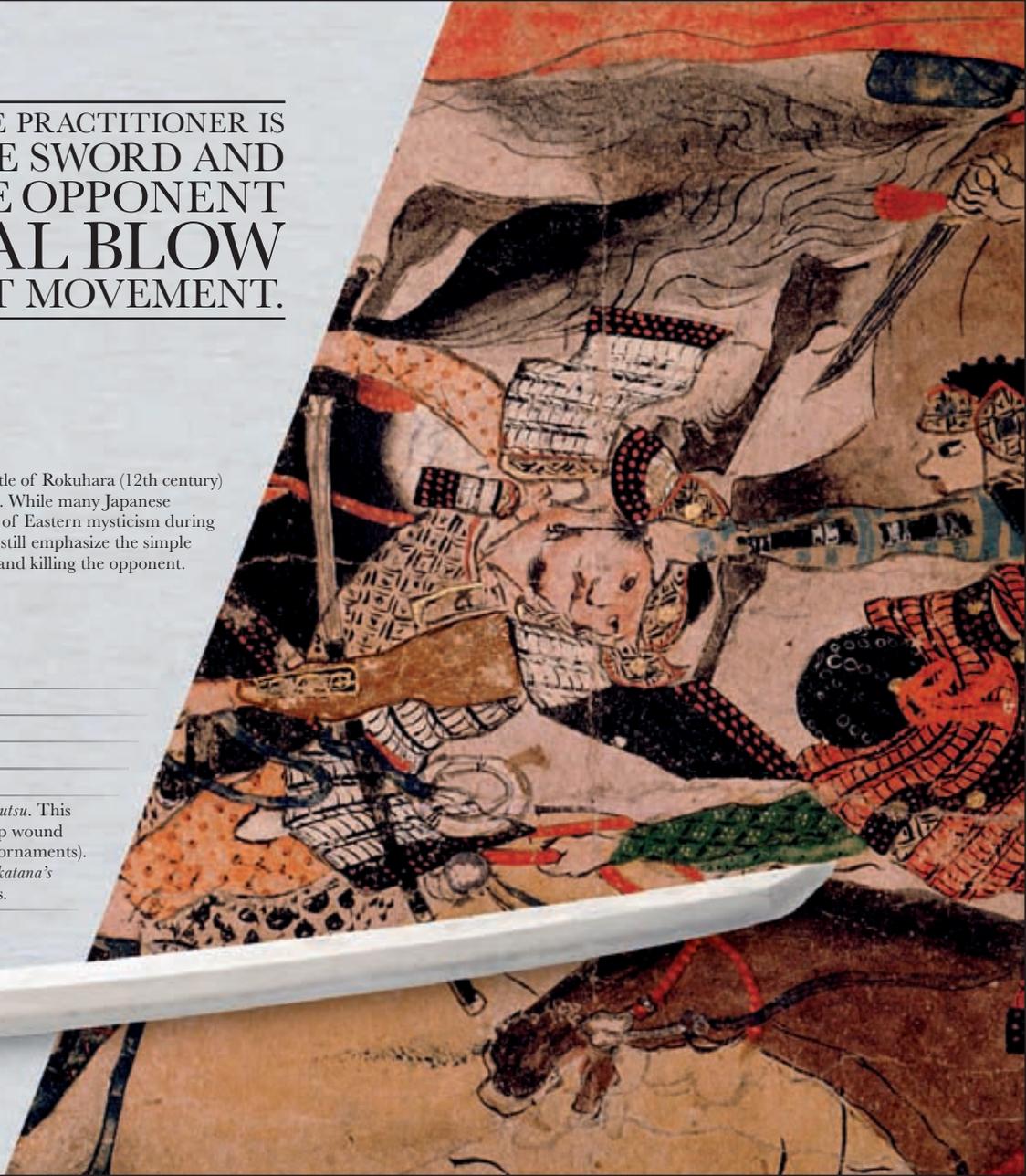
KATANA

ORIGIN Japan

WEIGHT c. 24 oz (680 g)

LENGTH c. 27½ in (70 cm)

The *katana* was the defining blade of *kenjutsu*. This example is curved, with a two-handed grip wound in silk braid with space for the *menuki* (hilt ornaments). Although primarily a slashing weapon, the *katana's* point was capable of delivering deep injuries.

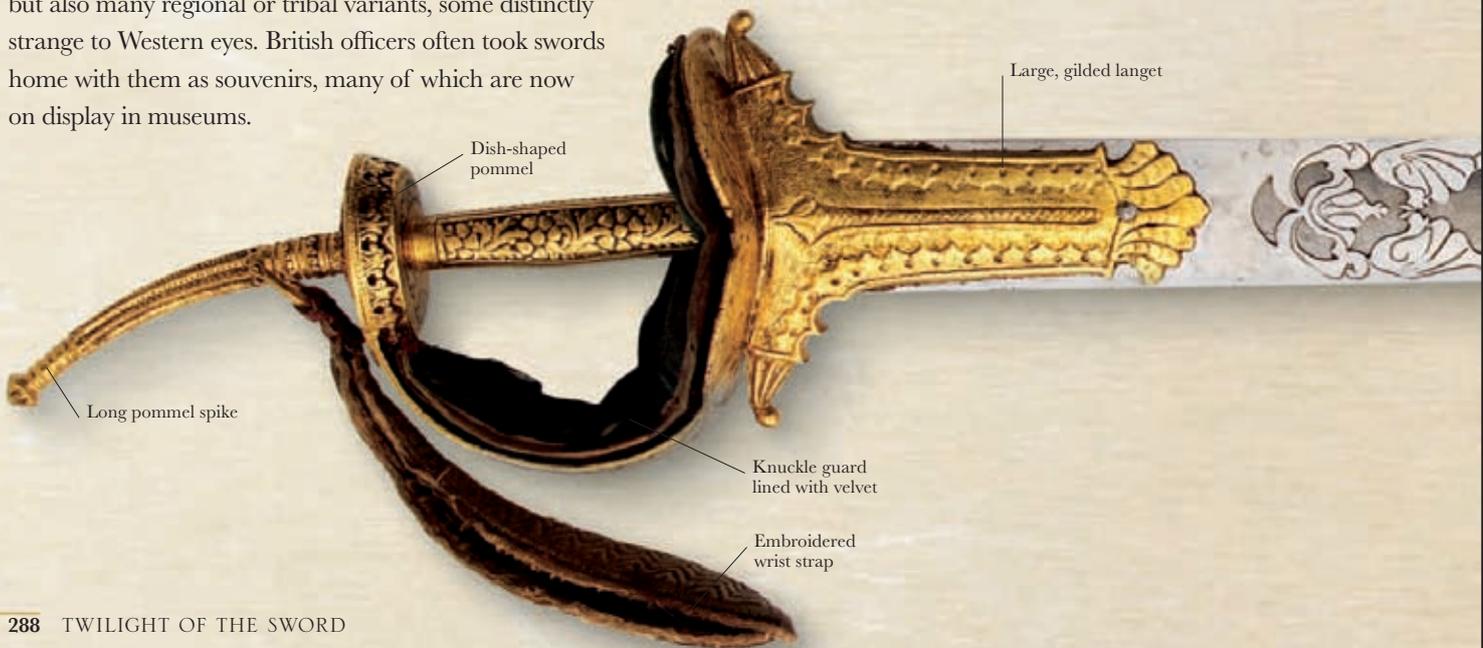


INDIAN SWORDS

During the late 18th and early 19th centuries, the British East India Company extended its control over most of India, paving the way for the establishment of the British Raj. These political changes had a limited impact upon Indian swordsmiths, who continued to produce swords in a great diversity of forms. These included not only mainstream swords in the Muslim and Hindu traditions—chiefly forms of *talwar* and *khanda*, made for the Indian princely courts that survived under British patronage—but also many regional or tribal variants, some distinctly strange to Western eyes. British officers often took swords home with them as souvenirs, many of which are now on display in museums.



Cutting edge



Large, gilded langet

Dish-shaped pommel

Long pommel spike

Knuckle guard lined with velvet

Embroidered wrist strap



Brass rosette
on ricasso

Reeded
copper band

Tapering wooden grip

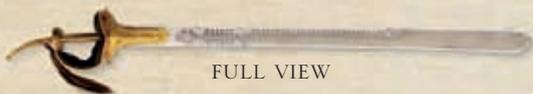
Horn
pommel section

VECHEVORAL

DATE	19th century	WEIGHT	2¼ lb (1.3 kg)
ORIGIN	India	LENGTH	24 in (62.1 cm)

The Indian subcontinent abounded in varieties of cutting implements for warfare and general agricultural use. This ornate *vechevor* has a handle of wood and ivory, a sickle-shaped blade with a concave cutting edge, and a band of brass and decorative scrolling along the back.

Reinforcement decorated
with floral pattern



FULL VIEW

KHANDA

DATE	19th century	WEIGHT	2¼ lb (1.3 kg)
ORIGIN	India	LENGTH	39 in (99.3 cm)

Influenced by the Hindu Maratha culture, this *khanda* has a straight, pattern-welded blade that widens toward the tip. As is common in *khandas* of this period, the lightweight, flexible blade is stiffened by reinforcements that run two-thirds of the length of one edge and a shorter way up the other.



Scroll handle ending in a lotus flower

Single cutting edge

Medial fuller

Chape decorated in gold *kufigari*

Velvet-covered wood

FAKIR'S CRUTCH

DATE c. 18th century

WEIGHT c. 4½ lb (2 kg)

ORIGIN India

LENGTH c. 2¼ in (71 cm)

This Indian dagger forms part of an unusual steel weapon used by holy men or *fakirs*. The blade is a slender wrought steel spike and was originally screwed into a hollow, wooden stick, which is now missing. The stick not only concealed the dagger, but was also useful for leaning on, which is why it is known as the *Fakir's* Crutch.

Handle screwed onto the wooden stick

Forward-curving blade

Wrought steel blade

FULL VIEW

NIZAM'S TALWAR

DATE 18th century	WEIGHT 2¼ lb (1.1 kg)
ORIGIN India	LENGTH 37¼ in (94.9 cm)

The blade inscription of this *talwar* suggests that it was made for one of the Nizams of Hyderabad, Muslim princes who ruled part of southern India from 1724 to 1948. Although the blade is unadorned, the hilt has fine traditional Indo-Muslim decoration.

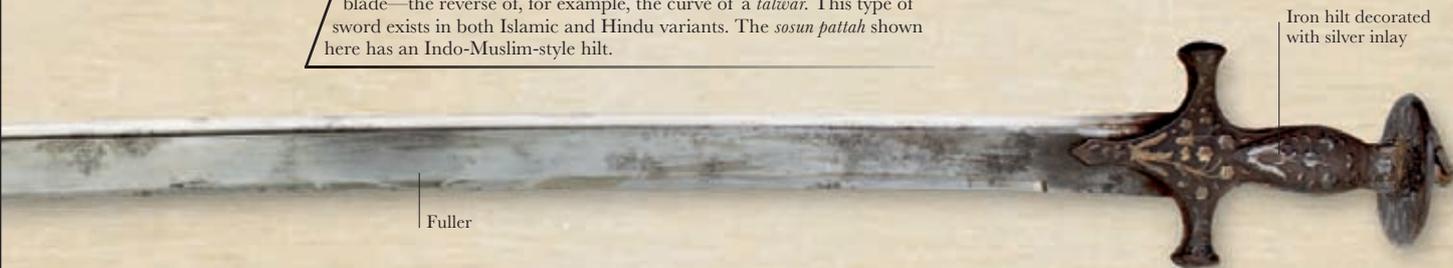


SCABBARD

SOSUN PATTAH

DATE 19th century	WEIGHT 2¼ lb (1.05 kg)
ORIGIN India	LENGTH 34 in (87 cm)

A traditional form of Indian sword, a *sosun pattah* has a forward-curving blade—the reverse of, for example, the curve of a *talwar*. This type of sword exists in both Islamic and Hindu variants. The *sosun pattah* shown here has an Indo-Muslim-style hilt.



Fuller

Iron hilt decorated with silver inlay

CEREMONIAL AX

DATE	19th century	WEIGHT	c. 2¼ lb (1 kg)
ORIGIN	India	LENGTH	c. 23½ in (60 cm)

This ax comes from Assam in northeastern India. Its purpose was almost certainly ceremonial, since the single-edged blade is of a fairly rough-quality iron, and the hilt and shaft are heavily decorated with colored human hair—not the most practical material with which to decorate a combat weapon.



Human hair decorates hilt

Tubular, leather-covered grip



FULL VIEW

Ruler of Oudh's arms



EXECUTIONER'S SWORD

DATE	19th century	WEIGHT	2¼ lb (1.05 kg)
ORIGIN	India	LENGTH	28 in (71 cm)

By the 19th century, the ruler of Oudh in northern India was under the effective control of the British, but executions were still an area in which he had full say and were carried out on his order. This sword, bearing the ruler's arms, would have severed a neck at a blow.



Flat tip ends in central point

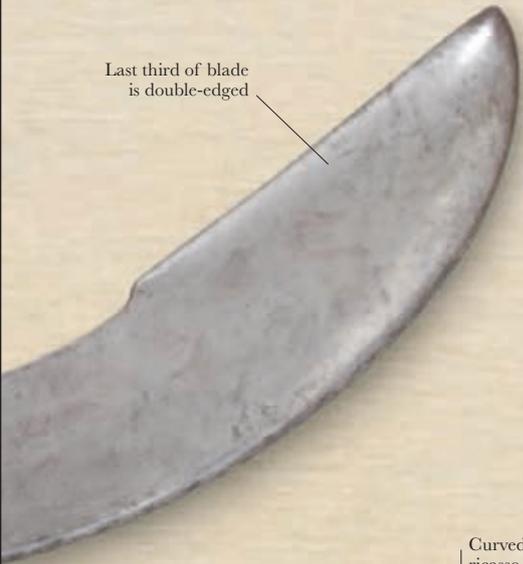
Double-edged blade



Braided human hair wrapped around shaft

Crude, single-edged iron blade

Last third of blade is double-edged



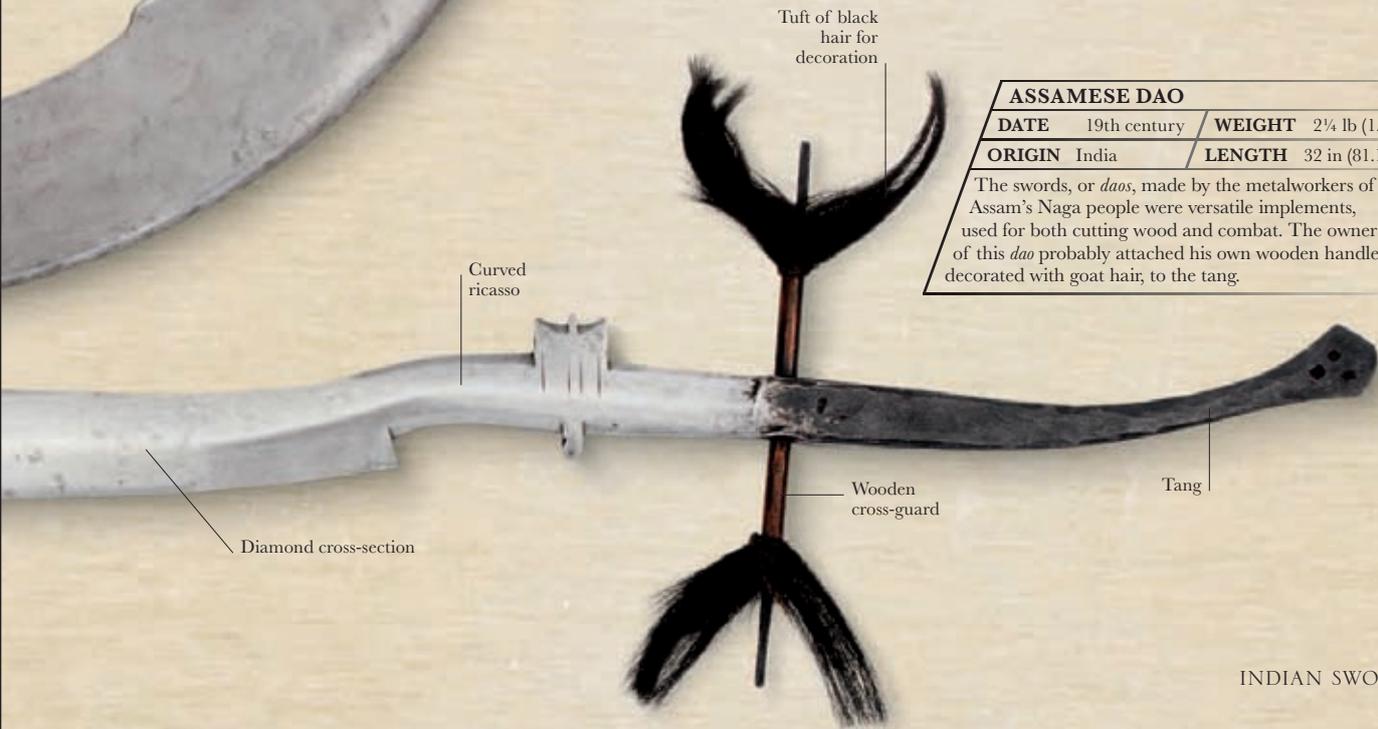
Tuft of black hair for decoration

ASSAMESE DAO

DATE 19th century / **WEIGHT** 2¼ lb (1.05 kg)

ORIGIN India / **LENGTH** 32 in (81.1 cm)

The swords, or *daos*, made by the metalworkers of Assam's Naga people were versatile implements, used for both cutting wood and combat. The owner of this *dao* probably attached his own wooden handle, decorated with goat hair, to the tang.



Curved ricasso

Diamond cross-section

Wooden cross-guard

Tang

INDIAN BLADES

Throughout the 19th century, the Indian subcontinent was the source of some of the world's most effective and original *melée* weapons (weapons used in close combat). These included a range of fearsome sharp-pointed knives with double-curved blades such as the *bich-hwa*, meaning scorpion, and various forms of fist dagger that allowed the warrior to deliver a stabbing blow to an enemy with a punching movement. Long metal sticks called parrying sticks were weapons that Indian armies had in common with African tribal fighting units. These sticks, sometimes combined with daggers, were used to fend off enemy attacks.



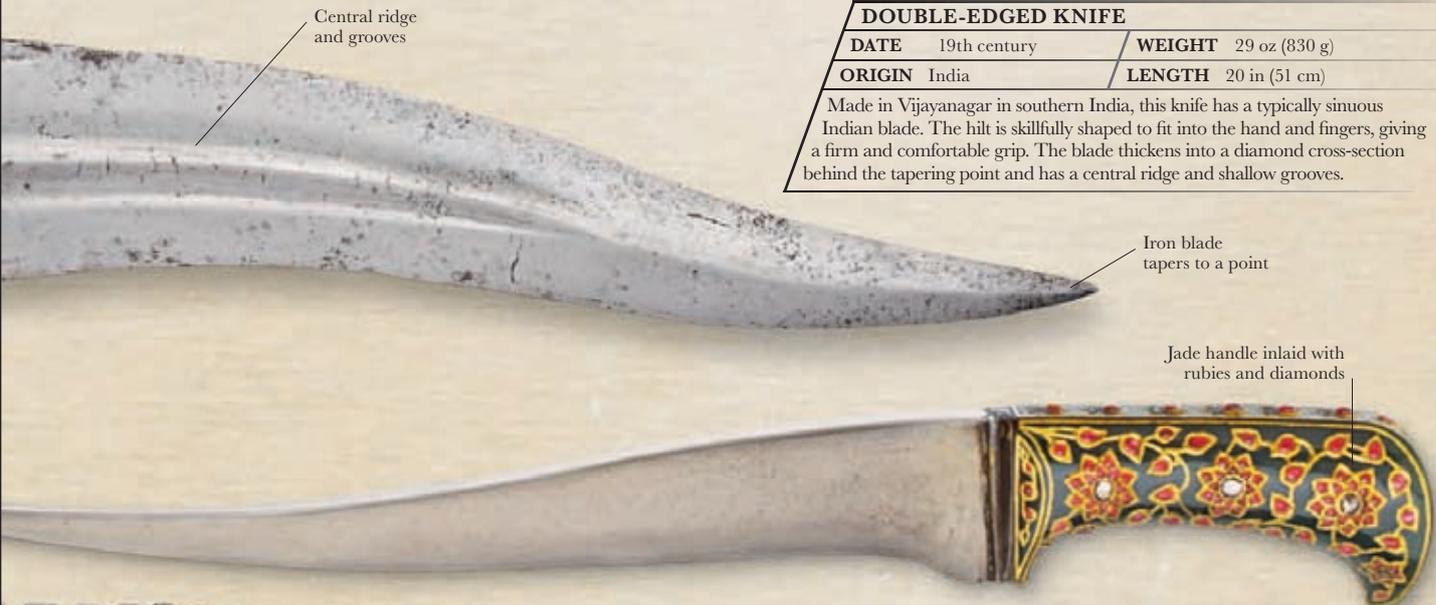
Ivory hilt



Diamond cross-section at point

Double-curved steel blade

Steel ring with claw



Central ridge and grooves

Iron blade tapers to a point

Jade handle inlaid with rubies and diamonds

DOUBLE-EDGED KNIFE

DATE 19th century	WEIGHT 29 oz (830 g)
ORIGIN India	LENGTH 20 in (51 cm)

Made in Vijayanagar in southern India, this knife has a typically sinuous Indian blade. The hilt is skillfully shaped to fit into the hand and fingers, giving a firm and comfortable grip. The blade thickens into a diamond cross-section behind the tapering point and has a central ridge and shallow grooves.



PESH-KABZ

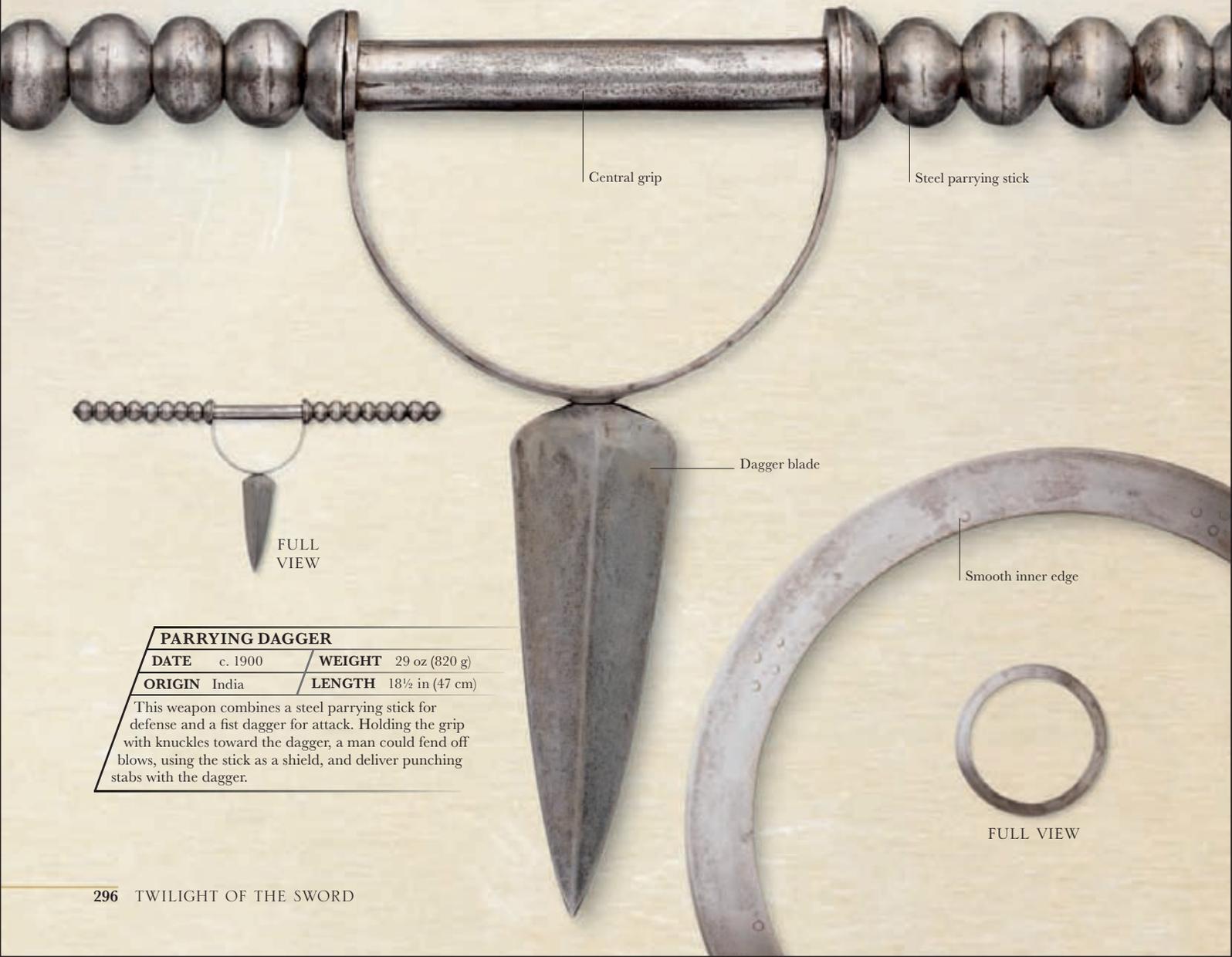
DATE c. 19th century	WEIGHT 12½ oz (340 g)
ORIGIN India	LENGTH c. 14 in (36 cm)

The *pesh-kabz* was a specialized dagger from Persia and north India, mainly used against enemies wearing chain-mail armor. The blade is wide at the hilt, narrowing to a cutting edge before tapering to a sharp point. The point would slip through the chain-mail and burst open the links.

BICH-HWA KNIFE

DATE c. 1900	WEIGHT 11 oz (300 g)
ORIGIN India	LENGTH 12 in (30.5 cm)

This knife is so-called possibly because of the stinging cut its double-curved blade delivers. The four *bagh nakh*, or “tiger’s claws,” attached to the steel rings on the handle, offer an alternative mode of attack—acting like clawed brass knuckles.



Central grip

Steel parrying stick

Dagger blade

Smooth inner edge

FULL
VIEW

FULL VIEW

PARRYING DAGGER

DATE c. 1900	WEIGHT 29 oz (820 g)
ORIGIN India	LENGTH 18½ in (47 cm)

This weapon combines a steel parrying stick for defense and a fist dagger for attack. Holding the grip with knuckles toward the dagger, a man could fend off blows, using the stick as a shield, and deliver punching stabs with the dagger.



Cleaning implements



Parrot-head pommel



SHEATH



Broad, cleaver-shaped blade with a single edge

Clipped-back point

PICHANGATTI

DATE	19th century	WEIGHT	10 oz (280 g)
ORIGIN	India	LENGTH	12 in (30.6 cm)

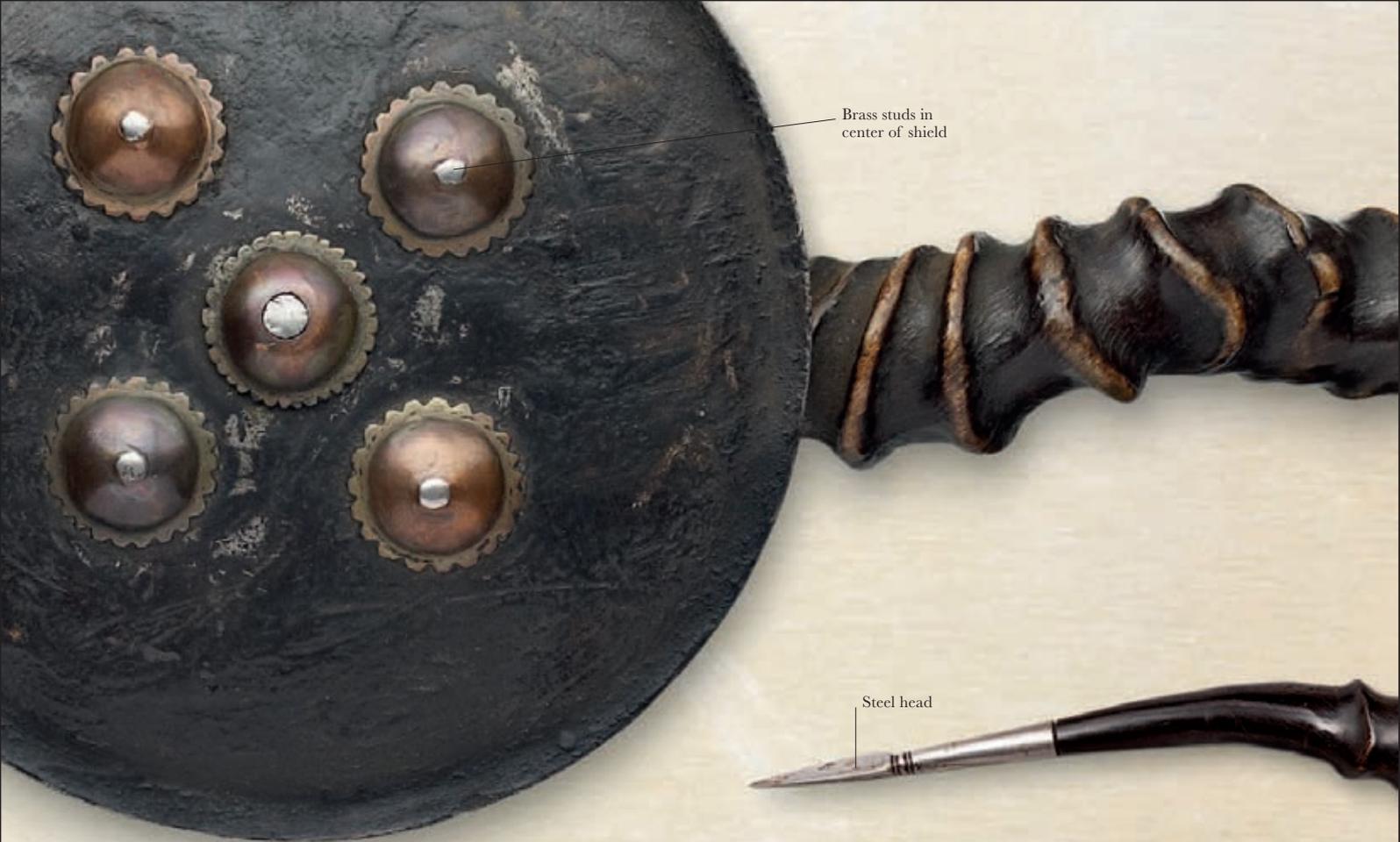
This broad-bladed knife is notable for its silver hilt and striking pommel—the parrot's eyes are uncut red stones. The sheath has five instruments attached to it by a chain. These were used for cleaning ears and nails. The knife was taken to Britain by a British army officer as a memento of the Indian Mutiny.

Sharpened outer edge

CHAKRAM

DATE	19th century	WEIGHT	c. 9 oz (250 g)
ORIGIN	India	DIAMETER	8–10 in (20–25 cm)

Used mostly by the Sikhs of northwestern India, the *chakram* was a flat steel quoit with a razor-sharp outer edge. Several quoits were worn by the warrior around his tall, conical turban and were either whirled around the forefinger before throwing or held between the thumb and forefinger and thrown underarm.



Brass studs in
center of shield

Steel head

ANIMAL HORN WAS A NATURAL WEAPON—
ROCK HARD BUT FLEXIBLE
ENOUGH TO WITHSTAND POWERFUL STABBING BLOWS.



Buck-horn stabbing weapon



FULL VIEW

Sharpened steel point

BUCK-HORN PARRYING SHIELD

DATE 18th/19th century

ORIGIN India

LENGTH Blade head: 7 in (17.7 cm)

This striking parrying weapon has a brass-studded shield, from which radiate two buck horns, terminating in sharp steel points. Each point is designed like a bodkin, ideal for punching through armor.



Buck horns riveted together to form double-pointed weapon

Finger grip

BUCK-HORN PARRYING STICK

DATE 18th century / **WEIGHT** 7 oz (200 g)

ORIGIN India / **LENGTH** 18½ in (47.3 cm)

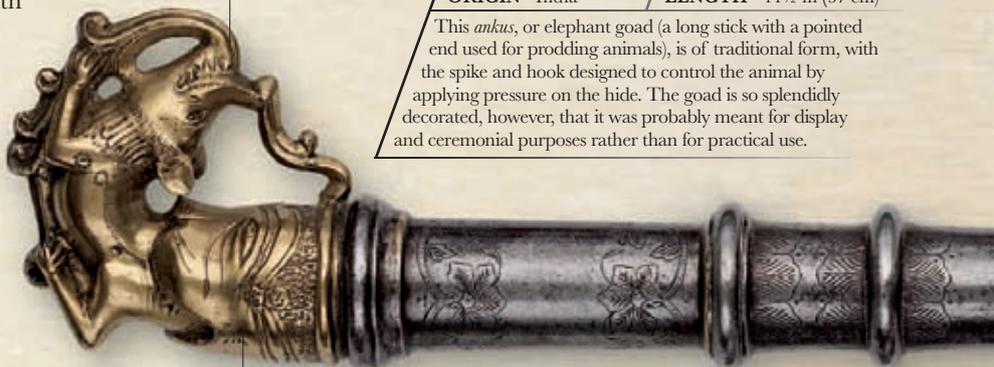
Known as a *madu* or *maru*, this parrying stick from Mysore is made from two buck horns riveted together with some space in between for fingers to pass through and grip. It acted as a hand shield against blows, and the steel heads on the antler tips made it a potentially dangerous offensive weapon as well.

INDIAN STAFF WEAPONS

The domination of India by British forces in the late 18th and 19th centuries, armed at first with muskets and later with rifles, rendered staff weapons increasingly obsolete on the subcontinent. To be effective, Indian armies had to deploy artillery and firearms. Traditional varieties of battle-ax and mace continued to be found in the armories of Hindu and Muslim princes, and among the weaponry of tribal peoples. Many of these weapons were, however, more ceremonial than practical.



Decoration shows
beast emerging
from tiger's mouth



Gilded brass pommel unscrews
to reveal a hidden blade

ANKUS

DATE	19th century	WEIGHT	21 oz (590 g)
ORIGIN	India	LENGTH	14½ in (37 cm)

This *ankus*, or elephant goad (a long stick with a pointed end used for prodding animals), is of traditional form, with the spike and hook designed to control the animal by applying pressure on the hide. The goad is so splendidly decorated, however, that it was probably meant for display and ceremonial purposes rather than for practical use.



BHUJ

DATE	19th century	WEIGHT	31 oz (870 g)
ORIGIN	India	LENGTH	28 in (70.4 cm)

The knifelike battle-axe known as a *bhuj* was used from earliest times in tribal India and adopted by Hindu and Muslim armies. It is often called an “elephant’s head” because of the characteristic decoration between shaft and blade.

Metal shaft

Brass elephant's-
head decoration

FULL VIEW

Silver and
gold inlay

TWO-POINTED TONGI

DATE 19th century / **WEIGHT** 25 oz (700 g)

ORIGIN India / **LENGTH** 34 in (85 cm)

The two-pointed steel head of this ax, or *tongi*, bears traces of punched decorations but is otherwise unadorned. The nature of the head reflects an abiding Indian attraction toward elaborately shaped weaponry.

Wooden shaft reinforced by bands and copper tip

Bifurcated head

Iron shaft

Spike

Heavy, double-edged blade

Symmetrical decoration of animal and foliage

Floral engraving

Steel hook or fluke

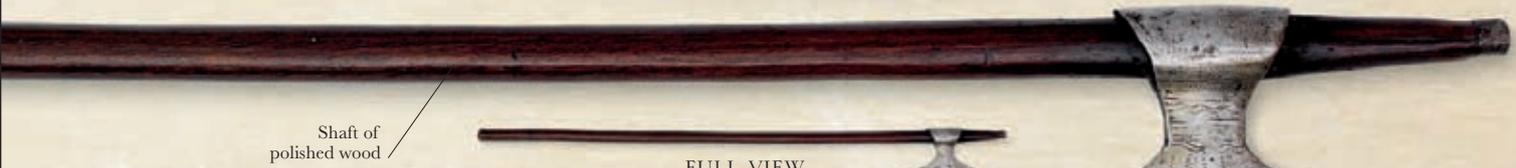


Ivory knob
in shape of
lotus flower

Shaft decorated
with scale pattern

Fine gray
steel blade

Decorated band
of gilded leaf



Shaft of
polished wood

FULL VIEW

FOUR-POINTED TONGI

DATE	19th century	WEIGHT	18 oz (500 g)
ORIGIN	India	LENGTH	37 in (95 cm)

Broadly similar to the two-pointed *tongi* (p. 301), this *tongi* has a steel head that diverges into four points. This is a basic and functional weapon, possibly used by members of the Dravidian Khond tribes of south India.

Four-pointed
blade





TABAR

DATE	19th century	WEIGHT	25 oz (700 g)
ORIGIN	India	LENGTH	26 in (65 cm)

The carved wooden shaft of this battle-ax, or *tabar*, is covered in green velvet at the grip and tipped with carved ivory at each end. The broad steel blade was effective in combat, but the fine decoration suggests that display was its primary function.

Spikes arranged in seven horizontal bands

Quadrangular top spike



SPIKED MACE

DATE	18th century	WEIGHT	5¼ lb (2.7 kg)
ORIGIN	India	LENGTH	30 in (76.9 cm)

Bearing 118 individual spikes, this mace would have delivered a devastating blow to an opponent. This particular mace is a Maratha weapon. The Marathas' greatest triumph was the victory over the forces of the British East India Company at Wadgaon in 1779.

FULL VIEW

AFRICAN BLADES

The blades of Africa displayed a greater diversity of shapes and purposes than those in the West and in Asia. Toward the north of the Sahara and along the eastern coast, which were under Arab and Ottoman Turkish influence, weapons broadly resembled those found across the Islamic world. However, to the south of the Sahara, the prevailing traditions produced distinctive weapons that ranged from a simple stick with pointed branches to elaborately decorated metal paddles. Many of these weapons were in use long after European colonial powers took over parts of Africa during the 19th century.



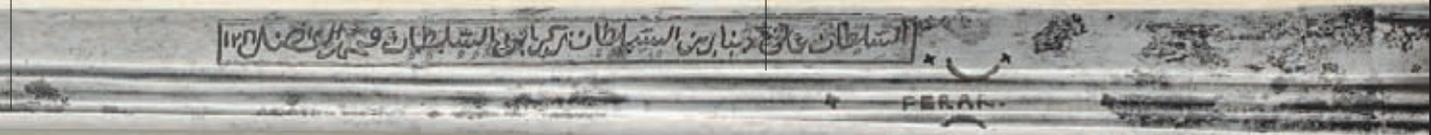
Carved hardwood handle



Brass scrollwork along back of blade

Triple fuller

Wide blade



FULL VIEW



Polished wood

Engraved silver chape

SCABBARD

CEREMONIAL DAGGER

DATE 19th century / **WEIGHT** c. 11 oz (300 g)

ORIGIN North Africa / **LENGTH** c. 16 in (40.6 cm)

This extremely ornate ceremonial dagger features a simple African hardwood hilt but has rich gold work on nearly half of the blade's length. The pattern on both blade and scabbard is typical Islamic scrollwork.



Single-edged blade
with gold decoration



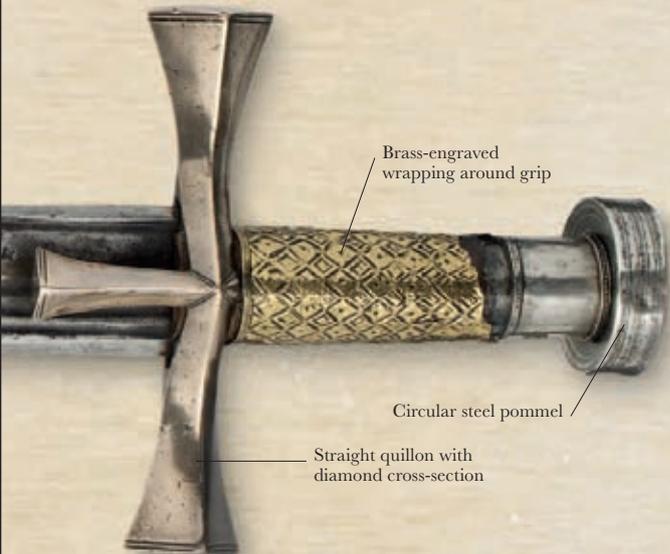
Long, thin blade

FLYSSA SWORD

DATE 19th century / **WEIGHT** c. 2½ lb (1 kg)

ORIGIN Morocco / **LENGTH** 38½ in (97.7 cm)

This sword was designed to break open chain-mail armor, which was worn in parts of Africa well into the 19th century. The steel blade features elaborate inlaid brass decoration, and the hilt terminates in an animal motif.



Brass-engraved
wrapping around grip

Circular steel pommel

Straight quillon with
diamond cross-section

KASKARA

DATE 19th century / **WEIGHT** c. 21 oz (600 g)

ORIGIN Sudan/Chad / **LENGTH** c. 35 in (90 cm)

The *kaskara*, with its straight, double-edged blade, is a type of broadsword with a recognizable connection to medieval European broadswords. Arabic script runs along the edge of the blade, which has a triple fuller to lighten it.

ZULU WARRIOR

A cattle-herding tribe in southern Africa, the Zulus developed into a military power in the 19th century—a transformation attributed to their chief Shaka (r. 1816–1828).



During Shaka's reign, the Zulus became the dominant military power in the region. Shaka introduced new weapons and tactics, and transformed the military structure. He recruited men between 18 and 20 years old for military service and organized them into regiments, each with separate dresses and shield

colors. The Zulus had earlier relied heavily on the *assegai*, a throwing spear, but Shaka encouraged them to use the *iklwa*, a deadly stabbing spear shown below. The *iklwa* and the *knobkerrie* club were effective close-quarters weapons. Protected by long cowhide shields, Zulu armies would attack en masse, attempting to encircle the enemy. First, they would advance at a steady pace, banging their shields with their spears. At about 100 ft (30 m) from the enemy, they would throw the *assegai* and run at full pace to fight with the *iklwa* and club. Though aggressive, these tactics proved costly against Europeans equipped with firearms.



Hardwood shaft cut from single piece of wood

IKLWA

DATE	19th century	WEIGHT	c. 2¼ lb (1 kg)
ORIGIN	Southern Africa	LENGTH	c. 4 ft (1.2 m)

The *iklwa* had a long, flat blade, about 14–18 in (35–45 cm) in length, attached to a staff. It was plunged into the enemy with an underhand motion, maximizing the force of the thrust. The *iklwa* is apparently named after the noise made when pulling it out from the enemy's body.

“
**WE KILLED EVERY
WHITE MAN**
LEFT IN THE CAMP AND THE
HORSES AND CATTLE, TOO.”

A ZULU WARRIOR ON THE MASSACRE OF THE BRITISH
AT THE NTOMBE RIVER IN NORTHERN ZULULAND, 1879

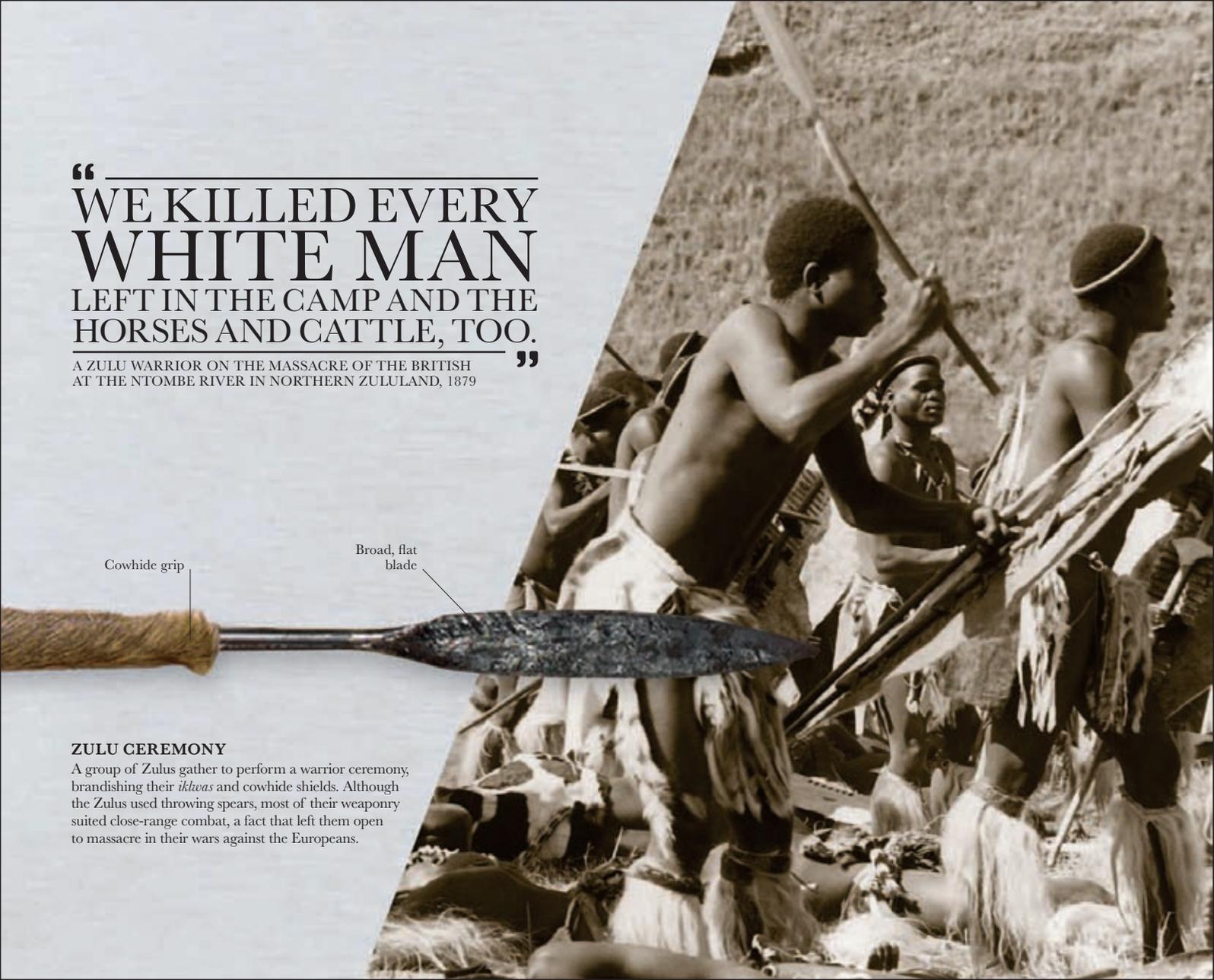
”

Cowhide grip

Broad, flat
blade

ZULU CEREMONY

A group of Zulus gather to perform a warrior ceremony, brandishing their *ikwas* and cowhide shields. Although the Zulus used throwing spears, most of their weaponry suited close-range combat, a fact that left them open to massacre in their wars against the Europeans.



AX CLUB

DATE c. 1900

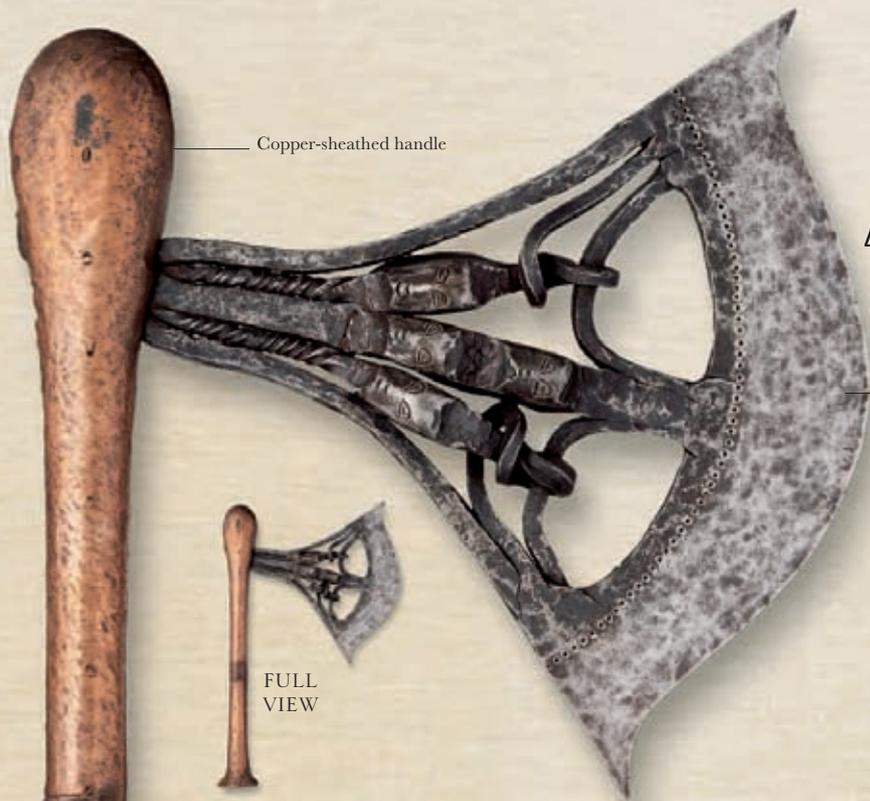
WEIGHT 13¾ oz (390 g)

ORIGIN West Africa

LENGTH 17¾ in (45 cm)

This decorative, highly polished ax club (a club with a blade on one side) was probably made in the West African kingdom of Dahomey, a powerful slave-trading state during the 18th and 19th centuries that was conquered by France in the 1890s. The weapon's metal blade is blunt, which indicates it may have been meant for ceremonial use.





Copper-sheathed handle

FULL
VIEW

CONGOLESE AX

DATE c. 1900

WEIGHT 3 lb (1.35 kg)

ORIGIN Dem. Rep. of Congo

LENGTH 16¾ in (42.8 cm)

This kind of ceremonial ax was often carried by chiefs of the Songye people of southeastern Congo. The axes were made by the Nsapo subgroup, who were skilled at iron and copper work. The ax's ceremonial purpose is evident in the openwork iron blade, which would have had limited strength.

Curved blade with
pointed ends

Curved edge
of blade

Ring-shaped
metal guard

STABBING KNIFE

DATE c. 1800

WEIGHT 7 oz (200 g)

ORIGIN Nigeria

LENGTH 7 in (17.8 cm)

Made by tribespeople from northern Nigeria, this knife has a single edge at the end of a stem and a ring-shaped handle. The stem projects from the back of the hand, so that the knife can be used for quick thrusting movements.



FIGHTING PICK

DATE c. 1900 / **WEIGHT** 23 oz (650 g)

ORIGIN Ghana / **LENGTH** 20 in (51 cm)

This unusual fighting pick from West Africa has a barbed metal point with a tang inserted into a wooden shaft. The rough skin of a monitor lizard has been used to improve the grip on the handle.

Lizard-skin grip

Hide covering

Studs of beaten silver coins

Barbed metal point

JAMBIYA

DATE 19th century / **WEIGHT** c. 11 oz (300 g)

ORIGIN Sudan / **LENGTH** c. 12 in (30.5 cm)

Of Arabian origin, a *jambiya* is a dagger used for both war and ceremonial purposes in Africa, the Middle East, and India. It has a double-edged blade, curved slightly upward and bisected by a thin, raised rib running up the center. The hilt is made of carved horn, an extremely durable material.



Wooden handle

SUDANESE ARROWS	
DATE	c. 1900
ORIGIN	Sudan
LENGTH	Top: 26 in (66 cm); bottom: 24 in (61 cm)
These arrows had many barbs, which made them difficult to extract from a wound. Tribal warriors would rush forward to fire arrows at the enemy from some 165 ft (50 m) away, then retreat to avoid arrows fired in reply.	

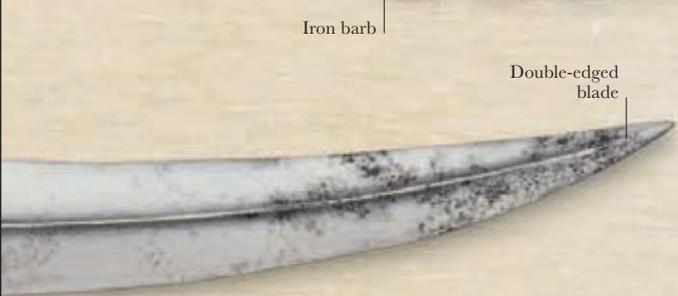


Multibarbed arrowhead

Cane shaft



Iron binding



Iron barb

Double-edged blade

DEEP-PIERCING SPEAR			
DATE	c. 1900	WEIGHT	16 oz (450 g)
ORIGIN	Africa	LENGTH	4 ft (1.22 m)
In tribal warfare, spears were almost always used as missile weapons, thrown in skirmishes where warriors avoided close combat. They served to finish off enemies wounded by arrows and unable to flee.			



Tapering copper spearhead

Shaft wrapped in woven wire

LEAF-SHAPED SPEAR			
DATE	c. 1900	WEIGHT	2½ lb (1.15 kg)
ORIGIN	Sudan	LENGTH	8¾ ft (2.67 m)
In contrast to the long, deep-piercing type of African spear, this Sudanese spear has a leaf-shaped blade. This type of blade inflicted broad injuries and also cut as it was removed from an injured person.			



Leaf-shaped head

DAGGERS OF OCEANIA

The Polynesians and other peoples who occupied the islands of the Pacific before the arrival of Europeans in the 17th century were much given to warfare. They engaged in forms of combat ranging from revenge raids and ritualized skirmishes to wars of conquest and extermination. Their weaponry was limited, consisting largely of wooden clubs, cleavers, daggers, and spears, sometimes edged with sharpened bone, shell, coral, stone, or obsidian. These weapons were intricately decorated and often held as objects of religious significance and valued as heirlooms.

Plain wooden handle



POLYNESIAN CUTLASS

DATE	19th century	WEIGHT	3¼ lb (1.5 kg)
ORIGIN	Polynesia	LENGTH	30½ in (77.5 cm)

The shape of this weapon, either a club or a cleaver, is most unusual, perhaps modeled on the cutlasses that were carried by European sailors. The Polynesian craftsman has blended that exotic shape with intricate indigenous carving—triangular sections and geometric motifs—that covers the head of the weapon.



MAORI PATUKI

DATE	c. 1860	WEIGHT	11 oz (310 g)
ORIGIN	New Zealand	LENGTH	14½ in (37 cm)

The Maori, Polynesians who colonized New Zealand around 1200 CE, were among the most warlike of Pacific peoples. This two-edged club, known as a *patuki*, comes from New Zealand's North Island and may have been taken as plunder by the British after their victory in the Maori War of 1860–69. It is decorated with iridescent haliois shells, as well as elaborate carvings.



FULL VIEW



Haliotis shell

Decorative carving

Club swells to spatula shape



Remains of wooden shaft

Characteristic local design

Central ridge on obsidian spearhead

OBSIDIAN SPEARHEAD

DATE c. 1900 **WEIGHT** 8 oz (220 g)

ORIGIN Papua New Guinea **LENGTH** 15 in (38 cm)

This spearhead is from the Admiralty Islands, off New Guinea, where obsidian, a volcanic glass, occurs naturally. The Melanesians discovered how to flake obsidian to a razor-sharp edge. The head is flat on one side and ridged on the other. Only part of the ochre-painted, decorated wooden shaft remains. It is fixed to the obsidian head with resin.



Head carved with geometric motifs

Obsidian blade, flaked to a point

Handle painted with red ochre

DAGGER WITH OBSIDIAN BLADE

DATE c. 1900 **WEIGHT** 2 oz (60 g)

ORIGIN Papua New Guinea **LENGTH** 11 in (28 cm)

Like the spearhead above, this dagger was made by the Melanesian people of the Admiralty Islands. The obsidian has been flaked to make sharp edges and a point. The blade of this dagger is flat on one side and raised to a ridge on the other. The pointed wooden handle is decorated with designs characteristic of this region.

MAORI WARRIOR

Originally farmers and sailors in Polynesia, the Maori settled in New Zealand between 800 and 1300 CE and soon established a reputation as ferocious fighters. Warfare was a central part of their culture and, until the advent of the British in the 19th century, Maori clans frequently fought among themselves over land rights, feuds, and slighted honor, and for vengeance.



Maori battles were extremely bloody and merciless, with dead enemies sometimes eaten in an act of ritualistic cannibalism. All male Maori were trained from boyhood to be *toa* (warriors).

They would band together in times of conflict, typically in groups of 70–140 men. Combat ranged from ambushes and surprise attacks on enemy villages to open, prearranged battles. Maori weapons typically included stone axes, wooden spears, and clubs, sometimes with a cutting edge made of sharpened stone, bone, coral, or shell. Traditional Maori warfare was transformed when Europeans introduced firearms. Maori tribes, now armed with muskets, fought a series of highly destructive wars among themselves, called the Musket Wars (c. 1810–30). These, combined with wars against the colonists, decimated the Maori as a military force by the late 19th century.



Spearhead in shape of *areho* (tongue)

TAIAHA

DATE	c. 18th century	WEIGHT	c. 3¼ lb (1.5 kg)
ORIGIN	New Zealand	LENGTH	c. 6 ft (1.8 m)

This traditional *taiaha* is a bladelike club crafted from a single piece of wood. The broad striking blade at one end was used like a slashing sword, while the spearhead at the other end was used for stabbing attacks.

IN BATTLE, SOME MAORI
ACTED AS CHASING
WARRIORS, BRINGING DOWN
FLEEING ENEMY,
WHO WERE THEN FINISHED OFF BY
EXECUTION SQUADS
THAT FOLLOWED BEHIND.

Broad striking blade

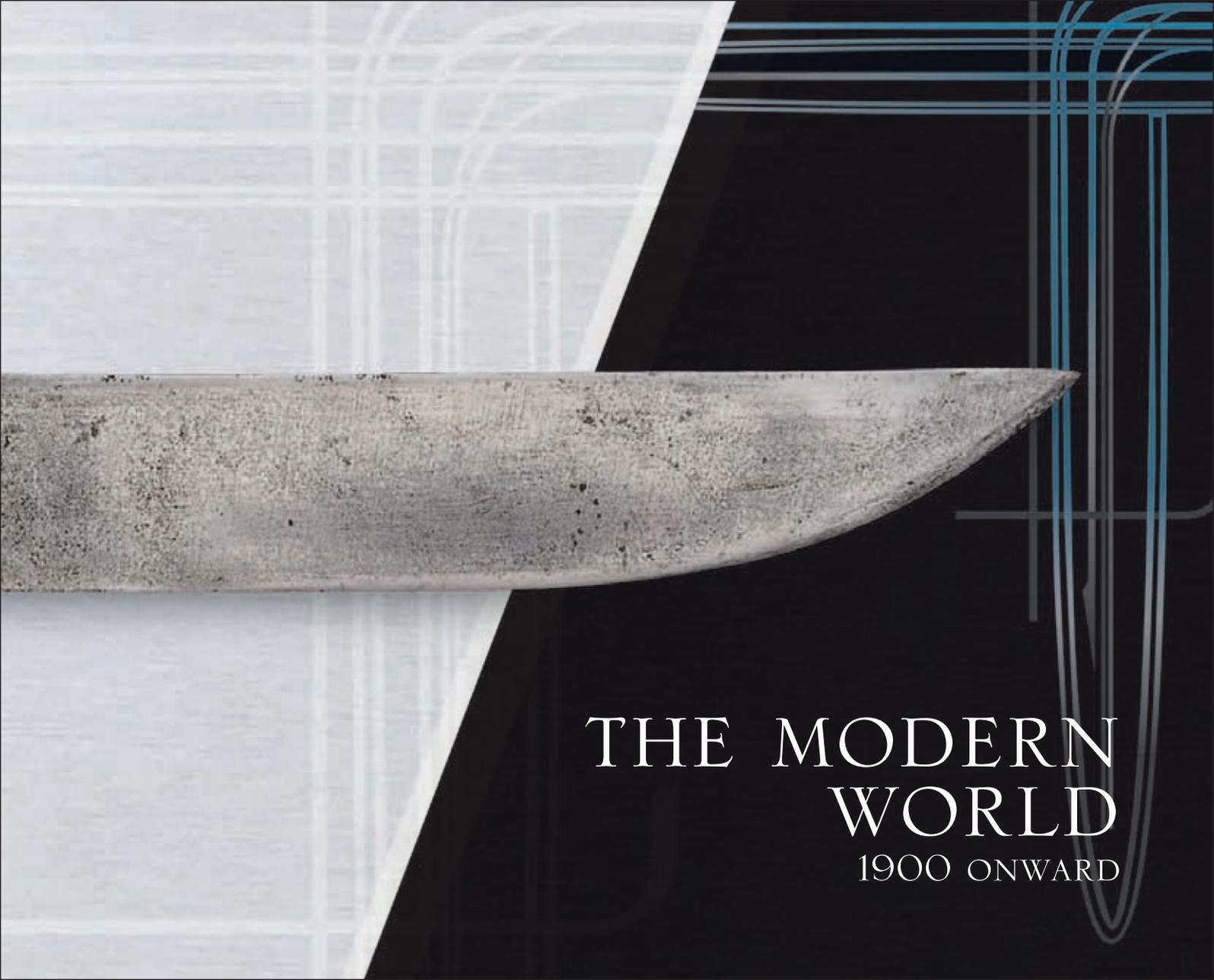


PAINTED WARRIORS

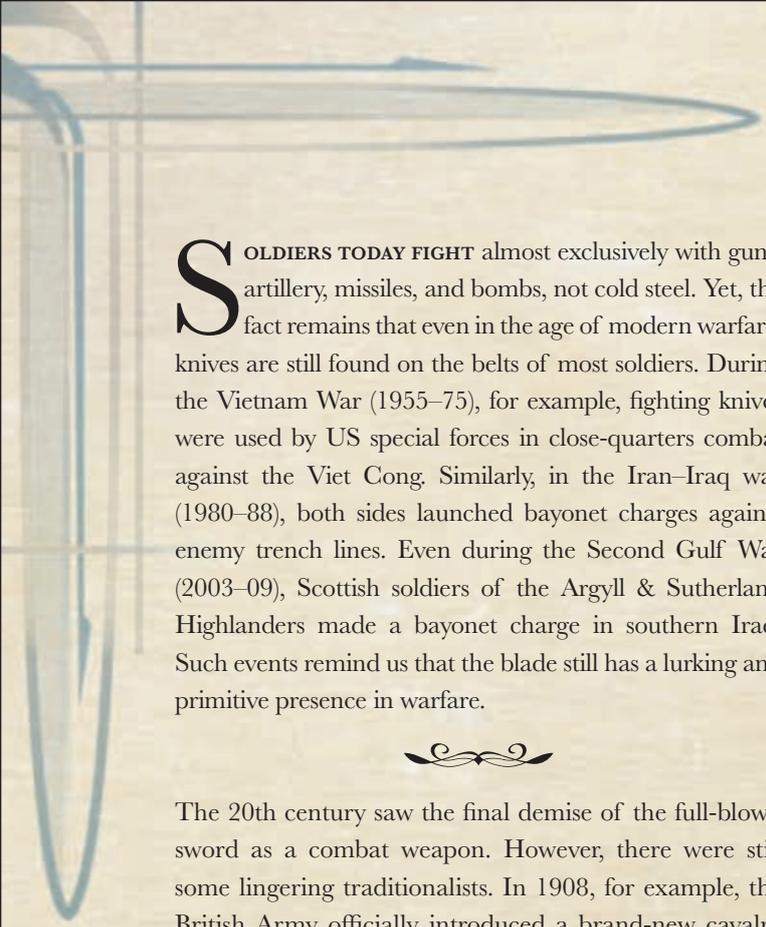
Tattooed Maori perform their traditional dance, called the *haka*, which is meant to intimidate the enemy. Maori tattoos indicated the ancestry, status, and fighting skills of the warrior. These modern Maori are armed with traditional paddlelike *taiaha* staff weapons. A short club was usually tucked into the belt as a backup weapon.







THE MODERN
WORLD
1900 ONWARD



SOLDIERS TODAY FIGHT almost exclusively with guns, artillery, missiles, and bombs, not cold steel. Yet, the fact remains that even in the age of modern warfare, knives are still found on the belts of most soldiers. During the Vietnam War (1955–75), for example, fighting knives were used by US special forces in close-quarters combat against the Viet Cong. Similarly, in the Iran–Iraq war (1980–88), both sides launched bayonet charges against enemy trench lines. Even during the Second Gulf War (2003–09), Scottish soldiers of the Argyll & Sutherland Highlanders made a bayonet charge in southern Iraq. Such events remind us that the blade still has a lurking and primitive presence in warfare.



The 20th century saw the final demise of the full-blown sword as a combat weapon. However, there were still some lingering traditionalists. In 1908, for example, the British Army officially introduced a brand-new cavalry sword—an excellent blade that fell out of use as the cavalry switched from horses to mechanized vehicles. In Eastern Europe, however, the Russian cavalries continued to make feisty sword-drawn charges against the German forces in World War I (1914–18) and even in World War II

(1939–45). Predictably, however, they suffered terrible losses against defenders armed with machine guns with an extremely high rate of fire. Toward the end of World War II, Allied soldiers in the Pacific and Southeast Asian regions faced suicidal rushes from Japanese soldiers armed with bayonets and *katana* swords. The *katana* was sometimes used by Japanese officers for committing ritual suicide when facing certain defeat.



Although the sword was fast becoming obsolete, the bayonet—an essential weapon of the infantry in the 18th and 19th centuries—showed its worth once again during the two world wars. During World War I, after the artillery had stopped pounding the enemy lines with gun fire, soldiers on the Western Front often had to cross no-man’s land and launch bayonet charges at enemy trenches. The typical bayonet at this time was formidably long—the blade of British M1907 sword bayonet measured 17 in (43 cm)—and came in single-edged, double-edged, or spiked varieties. Yet the extreme length of these bayonets was a hindrance in the closed confines of a trench. This, therefore, led to broad innovations in terms of more practical fighting knives. Soldiers even

sharpened entrenching tools such as the metal spades or posts that supported barbed-wire columns to use as weapons, or used vicious-looking brass-knuckle knives. Such weapons were crude but lethal in close quarters.



Soldiers were still equipped with bayonets during World War II, but by this time blades began to be used for other purposes as well, such as chopping firewood or cutting through forest undergrowth. In Germany, knives took on a special ceremonial significance among the ranks of the *Wehrmacht* (navy, army, and air force) and the *Schutzstaffel* (SS) and similar Nazi formations. Their blades were often inscribed with Nazi oaths such as “My Honor is Loyalty.” In the Allied armies, by contrast, the growth of special forces units such as the British commandos, the US and British airborne forces, and the secret service agencies demanded dedicated combat and assassination weapons. This led to the development of blades such as the Fairbairn–Sykes (FS) fighting knife and the US KA-BAR, which were specially designed for close combat. Their value as last-resort weapons meant that fighting knives continued to be considered as desirable tools of war long after World War II ended. Military bayonets, however,

were shortened considerably post-World War II, and tended to combine fighting and practical tools such as wire cutters in one unit.



In Africa and parts of Southeast Asia, blades were not only used for fighting, but also performed a variety of ceremonial roles. Elaborate curved daggers were used in initiation and puberty rituals, while long, cheap machetes acted as improvised weapons. Elsewhere in the world, the sword remains confined to more formal purposes. No longer the weapon of choice on the battlefield, it still enjoys a special status in the ceremonial practices of most military forces, and is often a standard part of officers’ dress uniform. The sword represents individual martial skill at its purest, and for that reason alone it will continue to embody the warrior spirit, if only on the parade ground rather than on the battlefield.

THE MODERN WORLD

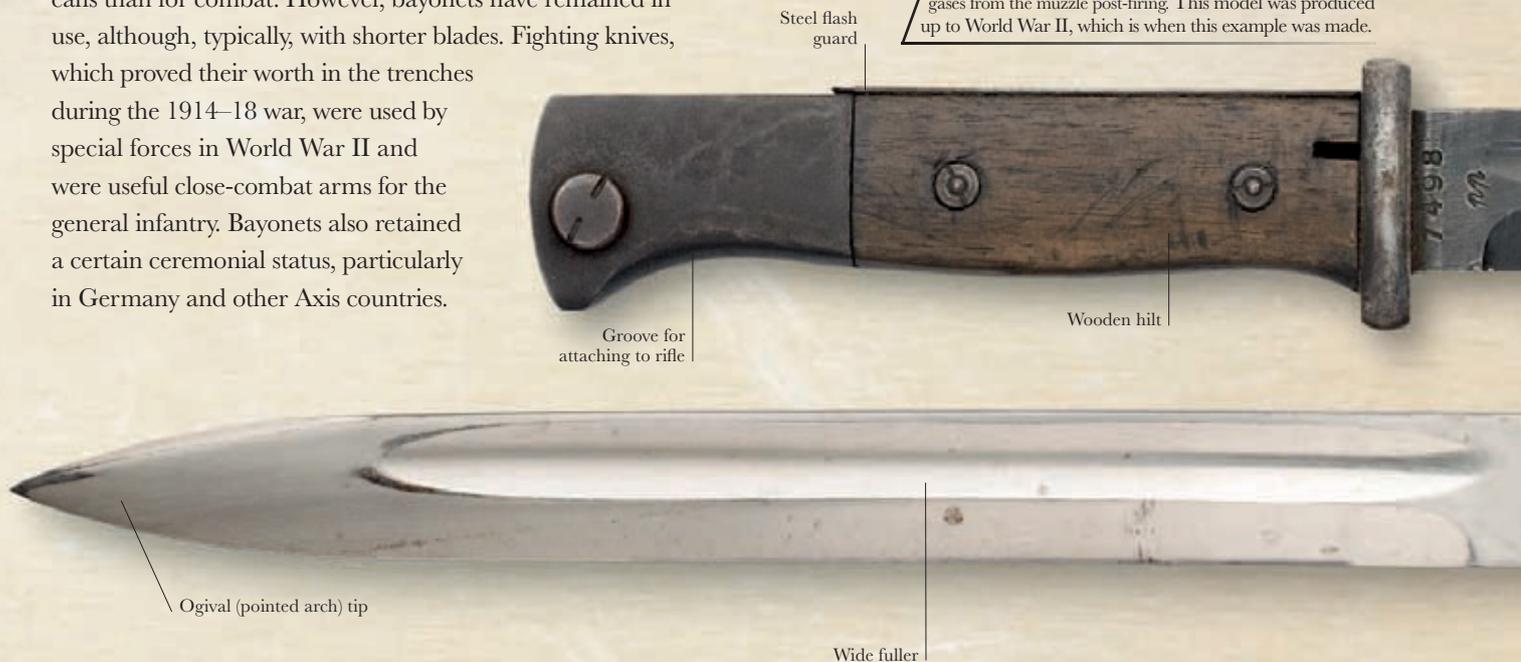
GERMAN AND ITALIAN BLADES

European armies entered World War I with faith in the bayonet charge as the key to victory in infantry combat. Reality proved different: troops advancing with bayonets fixed were mowed down by machine guns and rifle fire. The soldiers cynically claimed that bayonets were more useful for opening cans than for combat. However, bayonets have remained in use, although, typically, with shorter blades. Fighting knives, which proved their worth in the trenches during the 1914–18 war, were used by special forces in World War II and were useful close-combat arms for the general infantry. Bayonets also retained a certain ceremonial status, particularly in Germany and other Axis countries.

GERMAN S84/98 BAYONET

DATE	1940s	WEIGHT	14½ oz (420 g)
ORIGIN	Germany	LENGTH	15 in (38.2 cm)

This bayonet was introduced in 1915 as a cheap and sturdy attachment for the Mauser Gewehr 1898 rifle. It has no muzzle ring and is held to the rifle by a long groove in the pommel. The grip has a flash guard to deflect hot gases from the muzzle post-firing. This model was produced up to World War II, which is when this example was made.





GERMAN KNIFE BAYONET

DATE	1914–18	WEIGHT	7½ oz (220 g)
ORIGIN	Germany	LENGTH	10 in (26.1 cm)

Used on the Western Front toward the end of World War I, this short, double-edged bayonet was fitted to the Mauser Gewehr 1898 rifle, attaching to the barrel by a press stud. The knife bayonet was not official German army equipment, but troops were permitted to use it. Many did, since it doubled as a highly effective trench knife.



GERMAN WEHRMACHT DRESS BAYONET

DATE	c. 1940	WEIGHT	14½ oz (420 g)
ORIGIN	Germany	LENGTH	14½ in (35.5 cm)

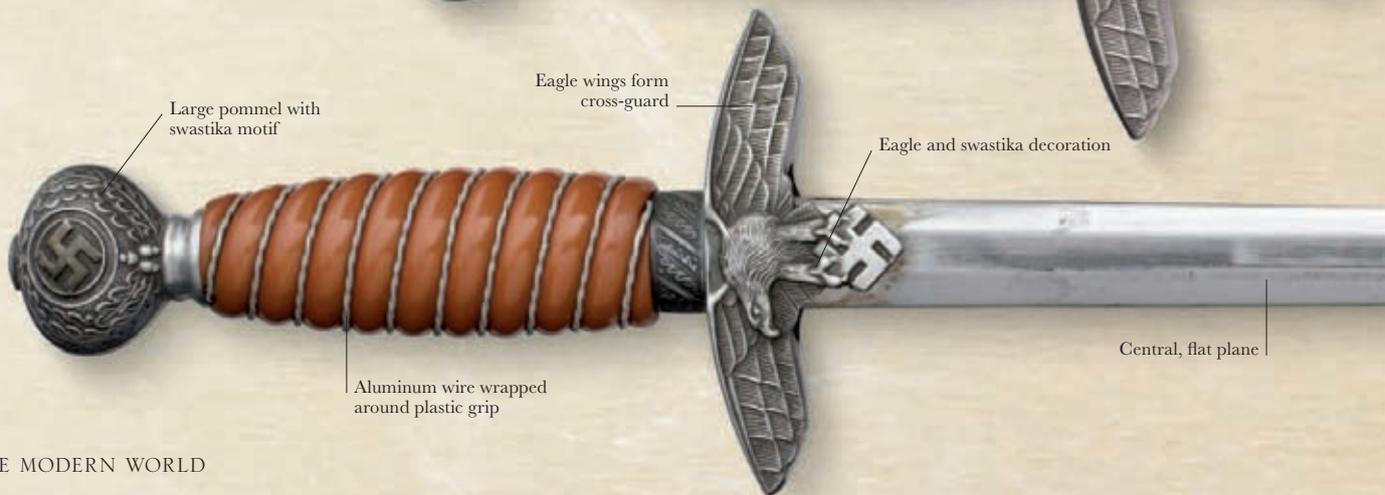
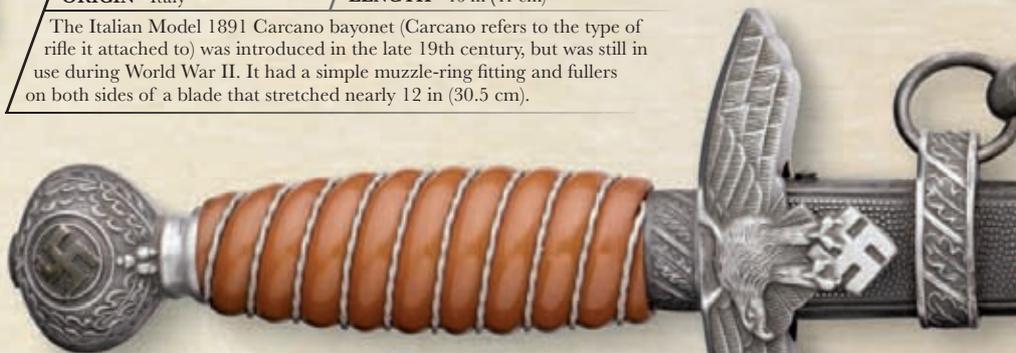
This Wehrmacht short dress bayonet was intended as a parade accompaniment for the Mauser 98k rifle, although the bayonet was never mounted. It features a black bakelite handle riveted to the steel hilt, and the bayonet release button is visible at the base of the grip. The blade is single-edged. In general, dress bayonets were unsharpened, having no combat purpose.

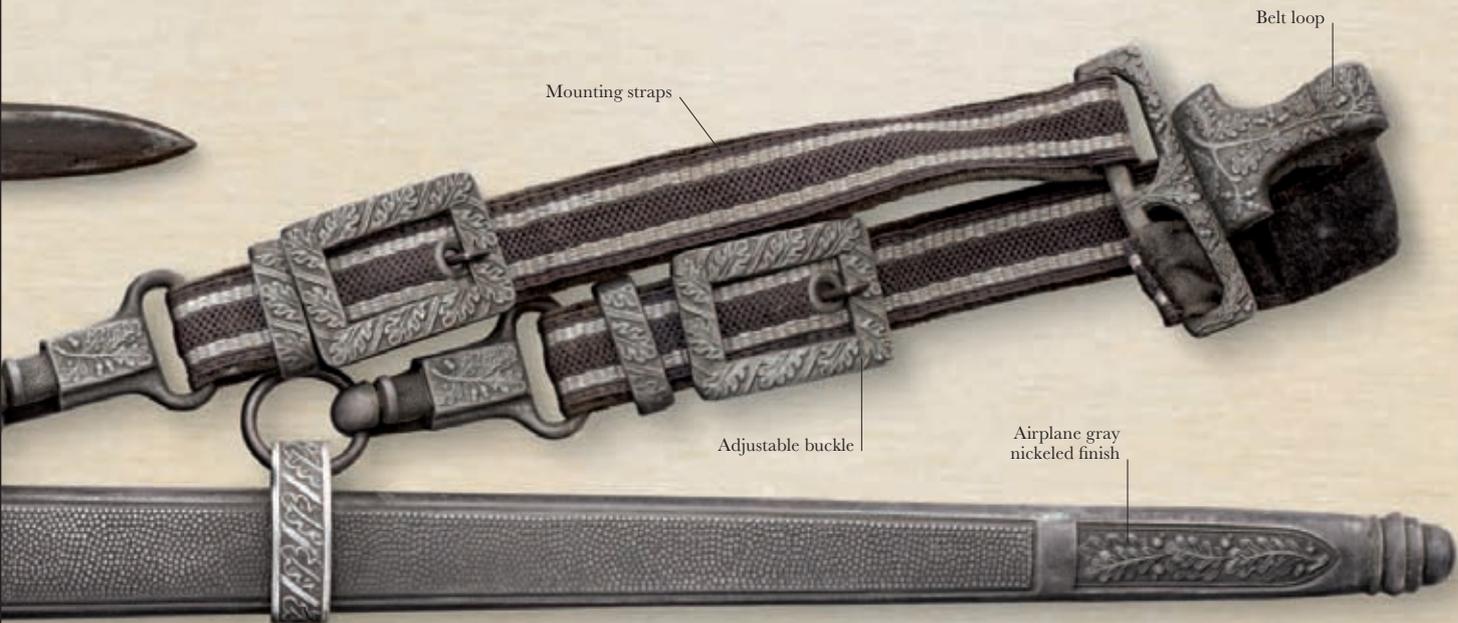


ITALIAN BAYONET

DATE	c. 1941	WEIGHT	18 oz (500 g)
ORIGIN	Italy	LENGTH	16 in (41 cm)

The Italian Model 1891 Carcano bayonet (Carcano refers to the type of rifle it attached to) was introduced in the late 19th century, but was still in use during World War II. It had a simple muzzle-ring fitting and fullers on both sides of a blade that stretched nearly 12 in (30.5 cm).





DAGGER IN
SCABBARD

GERMAN AIR OFFICER'S DAGGER

DATE	Late 1930s	WEIGHT	19 $\frac{1}{3}$ oz (540 g)
ORIGIN	Germany	LENGTH	16 $\frac{1}{2}$ in (42 cm)

The 2nd Model Luftwaffe dagger, worn only by officers, was introduced into the German forces in 1937. It had a stiletto-type blade (a thin, long blade with no cutting edge) with a distinctive flat plane running along the center on both sides. The dominant decoration was a Luftwaffe-type eagle and swastika.



Pointed end



Nickel-plated pommel

Leather blade protector

Leather strap to secure ax to pack or belt

Pick head

Collar fastening blade protector to shaft

Hardwood shaft

Reinforcing iron brace

Stud fastening blade protector



Hitler Youth swastika motif

Nickel-plated, curved cross-guard



Painted leather

SCABBARD



GERMAN TRENCH AX

DATE	c. 1915	WEIGHT	c. 3¼ lb (1.5 kg)
ORIGIN	Germany	LENGTH	21 in (53.3 cm)

Trench axes were essential pieces of gear on both sides during World War I, useful for chopping firewood and preparing bunkers, emplacements for military equipment, and other structures. When necessary, they could also be effective combat weapons—particularly for small-party, trench-raiding operations.

HITLER YOUTH DAGGER

DATE	c. 1937	WEIGHT	c. 11 oz (300 g)
ORIGIN	Germany	LENGTH	10½ in (26.6 cm)

Although introduced around 1935, the Hitler Youth dagger shown here is of a c. 1937 design, indicated by the *Blut und Ehre* (“Blood and Honor”) motto etched into the blade, a feature that was discontinued soon after. The hilt has a grip made of checkered bakelite, with a swastika motif and a nickel-plated pommel and cross-guard.

ALLGEMEINE-SCHUTZSTAFFEL DAGGER

DATE 1930s	WEIGHT 11 oz (300 g)
ORIGIN Germany	LENGTH 13 in (33 cm)

This dagger belonged to a branch of the *Schutzstaffel* (SS), or the “Protection Echelon” of the Nazi party. Called *Allgemeine-SS*, or the “General-SS,” this branch had a noncombative role. The dagger has a dark wood grip, dyed with vegetable pigments to achieve the requisite black, with the motto “My Honor is Loyalty” etched on the blade. The hilt features the Nazi eagle and SS runes.



Lacquered black oxide finish



Double-edged blade

SS motto “My Honor is Loyalty”

STURMABTEILUNG DAGGER

DATE c. 1934	WEIGHT 11 oz (300 g)
ORIGIN Germany	LENGTH 13 in (33 cm)

This dagger was issued to the *Sturmabteilung* (SA), or the “Assault Section”—the paramilitary forces of the Nazi party. The hilt, which was made from various woods such as oak, pear, and walnut, features the Nazi swastika and eagle motif. The runic SA initials are also visible at the base of the hilt, and the motto “Everything for Germany” runs down the center of the blade.



Double-edged carbon-steel blade



SCABBARD

Solid nickel fitting



Nazi eagle and swastika

Runic SS symbol



Nazi eagle and swastika

Runic SA symbol

SA motto "Everything for Germany"

SS BLADES COMBINED NAZI SYMBOLS WITH
RUNIC IMAGERY,
EVOKING THE WARRIOR
PEOPLES OF PAGAN NORTHERN EUROPE.

WWII BRITISH COMMANDO

The term “commando” was first used for citizens of the Boer republics in South Africa, who were commandeered by law to fight during the Boer War (1899–1902). It was revived during World War II to address the elite, specially trained, amphibious forces of the British army, who, alongside the Special Air Service (SAS), conducted clandestine raids in enemy-occupied territories.



Formed in June 1940, commando units drew personnel from all corners of the British forces. What set them apart from other soldiers was their training, plus the missions they undertook. They were taken to remote locations and instructed in unusual fighting techniques. Their training typically included outdoor survival, map-reading, mountain climbing, signaling, amphibious warfare, covert surveillance, and demolitions. Recruits also learned unarmed combat and knife-fighting skills. The commandos adopted the Fairbairn–Sykes knife (right), using it for disposing sentries and for hand-to-hand combat. William Fairbairn—a former police chief of Shanghai, China, and one of the knife’s designers—taught them how to use his knife in the most destructive way against human targets. The commandos

fought in almost every theater of war from 1940 to 1945, and in major operations such as the attack on Dieppe, France, in 1942 and the D-Day landings at Normandy in 1944. While the British Army’s commando units were disbanded after the war, the Navy’s Royal Marine Commandos continued in service. They serve to this day as a small elite within Britain’s armed forces.



FAIRBAIRN–SYKES FIGHTING KNIFE

DATE	1941–45	WEIGHT	8 oz (230 g)
ORIGIN	UK	LENGTH	12 in (30 cm)

Modeled on daggers used by Chinese gangsters, this knife was developed in the 1930s by William Fairbairn and his colleague Eric Sykes. British commandos used it for hand-to-hand combat, since the sharp edge of this slender knife could easily penetrate the rib cage. The knife was light and well balanced, making it suitable for throwing as well.

“
IN CLOSE-QUARTERS
FIGHTING, THERE IS NO
MORE DEADLY WEAPON
THAN A KNIFE.”

WILLIAM FAIRBAIRN (1885–1960) IN HIS BOOK *GET TOUGH*, 1942



Short ricasso leads to
double-edged blade

Oval
cross-guard

POISED TO STRIKE

This photograph shows a British Commando in France during World War II, wearing British battledress uniform with a French helmet and clutching a combat dagger. Commandos were taught to use knives against soft, vital parts of the body, particularly the neck, abdomen, groin, and kidneys.



BRITISH, AMERICAN, AND ALLIED BLADES

The Allies during both world wars were just as deeply wedded to the retention of bayonets as the Axis nations. Yet times were changing. During World War I, a bayonet charge was still a feature of combat, but by World War II it had largely become an anachronism. The later war was characterized by mobility, firepower, and frequent urban warfare, and mounting a lengthy bayonet was awkward and inappropriate. Yet the rise of special forces and paratroopers in World War II created the need for pure close-quarters fighting knives, while bayonets were put to other uses, such as cutting through foliage.

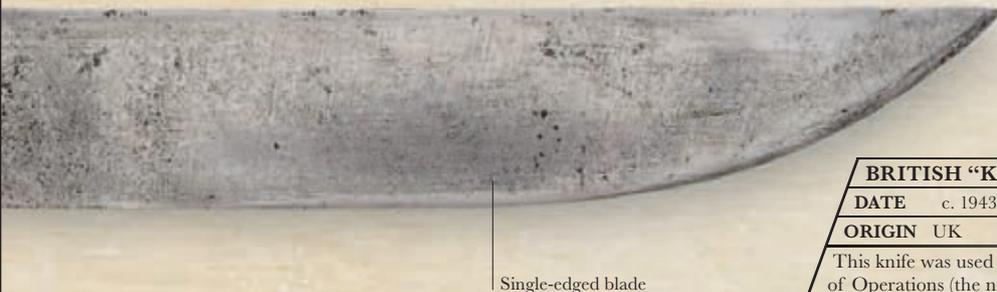




US BRASS-KNUCKLE KNIFE

DATE	1940s	WEIGHT	18 oz (500 g)
ORIGIN	USA	LENGTH	22 in (56 cm)

The US Mark 1 1918 brass-knuckle knife was intended as a World War I “trench-clearing tool,” but arrived too late for use on the Western Front. Winning fame as a World War II paratroopers’ weapon, it had three attack modes: striking an opponent’s skull with the pommel nut, punching him with the brass knuckle, and stabbing him upward with the blade.



BRITISH “KNUCKLE-DUSTER” KNIFE

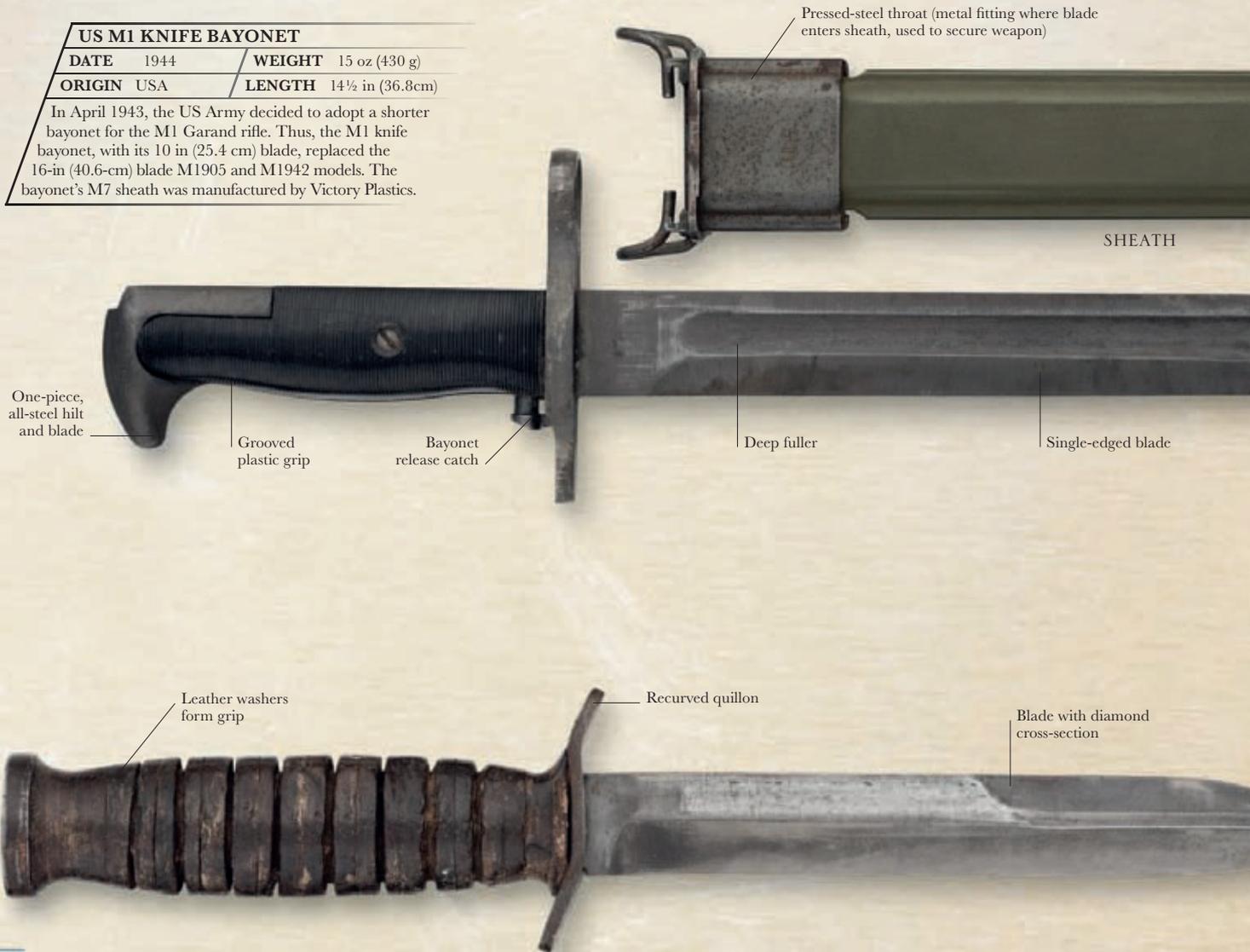
DATE	c. 1943	WEIGHT	16 oz (450 g)
ORIGIN	UK	LENGTH	11¼ in (30 cm)

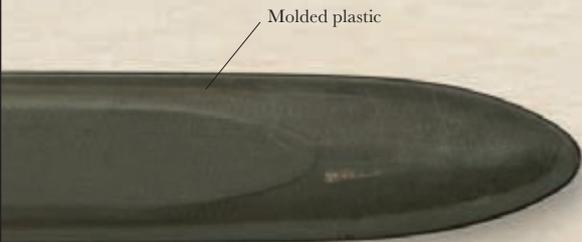
This knife was used by British special forces in the Mediterranean Theater of Operations (the name for the conflict between the Allies and the Axis powers in Italy and North Africa) during World War II. Cast from a single piece of brass, the hilt has four protruding studs that form a brass knuckle for punching. The blade has a single cutting edge that sweeps upward to the point. The shape of the grip makes this a knife for upward stabbing, rather than slashing.

US M1 KNIFE BAYONET

DATE	1944	WEIGHT	15 oz (430 g)
ORIGIN	USA	LENGTH	14½ in (36.8cm)

In April 1943, the US Army decided to adopt a shorter bayonet for the M1 Garand rifle. Thus, the M1 knife bayonet, with its 10 in (25.4 cm) blade, replaced the 16-in (40.6-cm) blade M1905 and M1942 models. The bayonet's M7 sheath was manufactured by Victory Plastics.





Molded plastic



Brass-knuckle guard



Plain hardwood grip

US M1917 TRENCH KNIFE

DATE	1917	WEIGHT	c. 11 oz (300 g)
ORIGIN	USA	LENGTH	13¼ in (33.6 cm)

The US M1917 trench knife was the US Army's first trench-fighting knife. Although the pick blade looks impressive, it was rather fragile in action. More effective was the brass-knuckle hilt, which had either flanged or rounded projections. The leather sheaths sometimes had metal throats, as seen here.

Blade with triangular cross-section



Steel throat

AMERICAN MK3 FIGHTING KNIFE

DATE	c. 1950	WEIGHT	9 oz (240 g)
ORIGIN	USA	LENGTH	12 in (29.5cm)

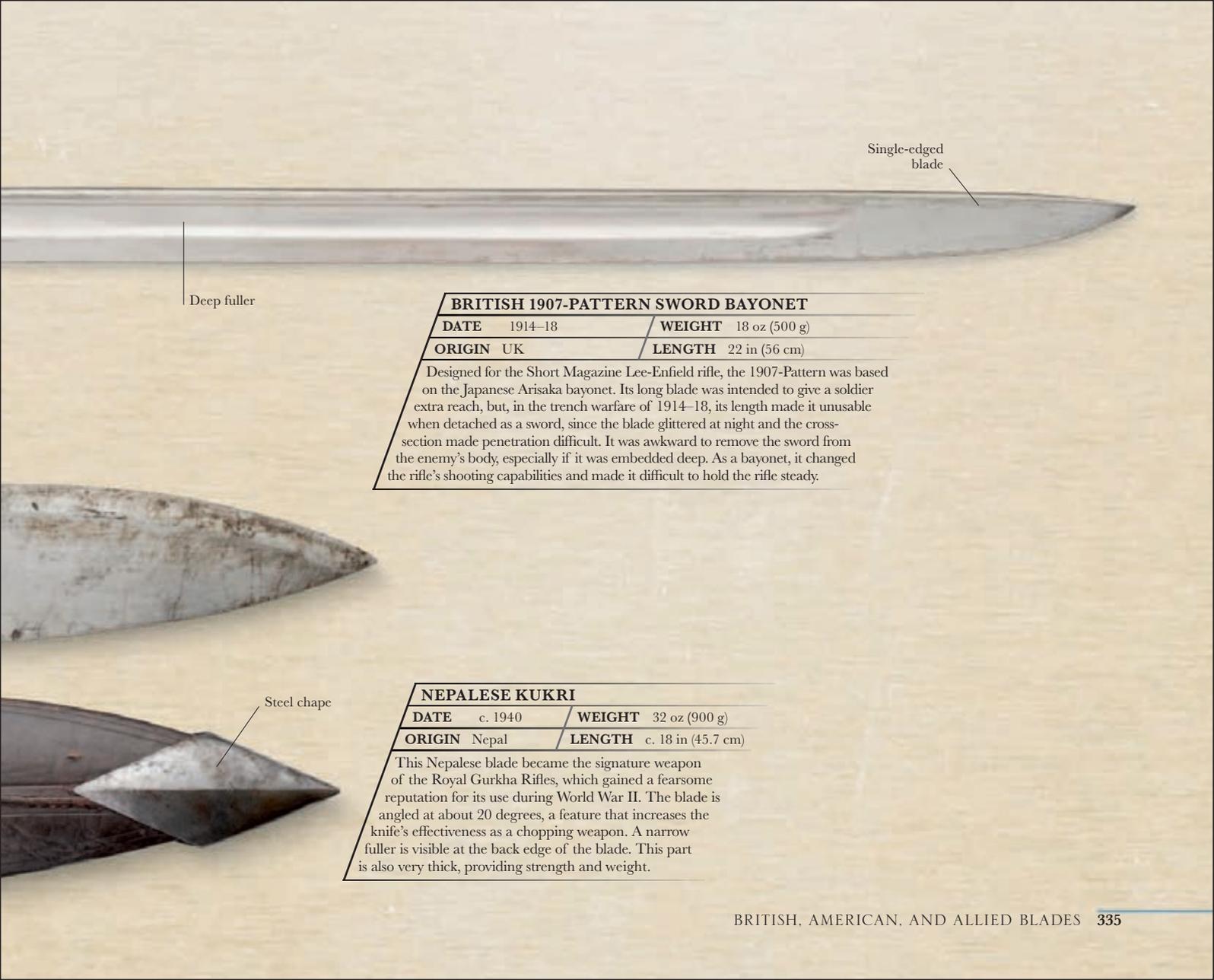
In 1943, the US Army introduced the Mk3 knife, designed for hand-to-hand fighting. It was rapidly put into mass production, with 2.5 million manufactured by 1944. The hilt and blade were influenced by the British Fairbairn-Sykes fighting knife (*pp.* 328–29).

Plain leather

SHEATH







Single-edged blade

Deep fuller

BRITISH 1907-PATTERN SWORD BAYONET

DATE	1914–18	WEIGHT	18 oz (500 g)
ORIGIN	UK	LENGTH	22 in (56 cm)

Designed for the Short Magazine Lee-Enfield rifle, the 1907-Pattern was based on the Japanese Arisaka bayonet. Its long blade was intended to give a soldier extra reach, but, in the trench warfare of 1914–18, its length made it unusable when detached as a sword, since the blade glittered at night and the cross-section made penetration difficult. It was awkward to remove the sword from the enemy's body, especially if it was embedded deep. As a bayonet, it changed the rifle's shooting capabilities and made it difficult to hold the rifle steady.

Steel chape

NEPALESE KUKRI

DATE	c. 1940	WEIGHT	32 oz (900 g)
ORIGIN	Nepal	LENGTH	c. 18 in (45.7 cm)

This Nepalese blade became the signature weapon of the Royal Gurkha Rifles, which gained a fearsome reputation for its use during World War II. The blade is angled at about 20 degrees, a feature that increases the knife's effectiveness as a chopping weapon. A narrow fuller is visible at the back edge of the blade. This part is also very thick, providing strength and weight.

Hole for
wrist cord



Handle riveted
to tang

THE MACHETE WAS THE BASIC TOOL OF
JUNGLE OPERATIONS,
PERMITTING TRAVEL THROUGH
TANGLED VEGETATION
AWAY FROM THE TRAILS.

Hip mounting

Loop binding
to hold handle



Hole for
wrist cord

Black plastic handle



Single-edged
blade

US M1942 MACHETE

DATE 1944

WEIGHT c. 28 oz (800 g)

ORIGIN USA

LENGTH 22 in (56 cm)

The M1942 machete had an 18-in (45.7-cm) blade and was based on a commercial model manufactured by the Collins company. Like the British example above, this machete has a hole in the handle for a wrist cord, which prevented the machete from being dropped or lost when in use.

Brass
protector strip





Heavy, counter-balanced blade

Single cutting edge

BRITISH MACHETE

DATE 1944

WEIGHT c. 28 oz (800 g)

ORIGIN UK

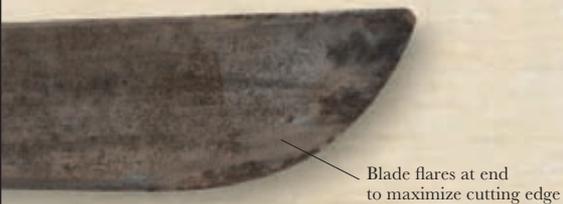
LENGTH 20½ in (52 cm)

This machete was issued to British and Commonwealth forces in Southeast Asia during World War II. It had a particularly heavy counterbalanced head to provide momentum when chopping thick foliage, and it came with a leather sheath that often rotted in the humid climate.



SHEATH

Stitched seam



Blade flares at end to maximize cutting edge



SHEATH

Water-repellent canvas material

GURKHA

The Gurkhas are a people originally from Nepal and northern India, known for their indomitable courage. During the 19th century, they were recruited by the British East India Company, and continue to serve the British forces to this day. The Indian Army retains six Gurkha regiments and the Nepalese Army has two Gurkha battalions. The Gurkhas' best-known weapon is the *kukri*. Capable of removing an enemy's head in a single swipe, the *kukri* was particularly

feared by the Japanese during World War II. The notch in the blade may have religious significance (resembling the hoof of the cow, a sacred animal for the primarily Hindu Gurkhas) or it may simply help to drain fluids away from the handle.



KUKRI

DATE	c. 1940	WEIGHT	c. 32 oz (900 g)
ORIGIN	Nepal	LENGTH	c. 18 in (45.7 cm)

The wooden handle and broad, curved blade with a notch make this a typical example of the Gurkha's *kukri*. It is large enough to be wielded two-handed, and is effective for cutting through jungle undergrowth as well as in battle.

“
IF A MAN SAYS HE IS
NOT AFRAID OF DYING,
HE IS EITHER LYING OR
HE IS A GURKHA.
”

FIELD MARSHAL SAM MANEKSHAW (1914–2008),
FORMER CHIEF OF STAFF OF THE INDIAN ARMY

Weight concentrated
at front of blade



SKILLED FIGHTER

A soldier of the 1st Battalion of the Royal Gurkha Rifles displays his *kukri* skills. The *kukri*'s effectiveness derives from its razor-sharp edge and heavy weight. In combat, it would be used with a chopping action, the main targets being the head, neck, and forearms.

JAPANESE BLADES

Although they were no longer practical on the World War II battlefields of the Pacific, China, and Southeast Asia, swords were still commonly worn by Japanese officers for ceremonial purposes, and were even drawn during infantry charges against the enemy or for executing prisoners. Japan's wartime shortages in raw materials meant that the quality of these swords left a lot to be desired. Their blades tended to be of standard machine steel. This, along with their poor construction quality, soon rendered these swords ineffective in hot and humid jungle or island conditions.



Crude, improvised handle

SHIN-GUNTO

DATE	Late 1930s	WEIGHT	24 oz (680 g)
ORIGIN	Japan	LENGTH	27 1/2 in (70 cm)

This *shin-gunto*, or army officer's sword, is based upon the traditional design of the *wakazashi* (pp. 198–203). It has a painted metal scabbard, unlike later wartime examples (c. 1944 onward), which had lacquered wooden scabbards, sometimes called marine mounts.



Cord-wrapped hilt

Tsuba

Suspension ring to attach scabbard to belt loop or straps



Rudimentary iron blade

JAPANESE CANE KNIFE

DATE 1940s

WEIGHT c. 2¼ lb (1 kg)

ORIGIN Japan

LENGTH 14 in (35.5 cm)

Cane knives, as their name describes, were traditionally used by Japanese-American laborers to harvest sugar cane in Hawaii during the late 19th century. They found a new purpose among soldiers during World War II, when they were used for clearing jungle foliage.



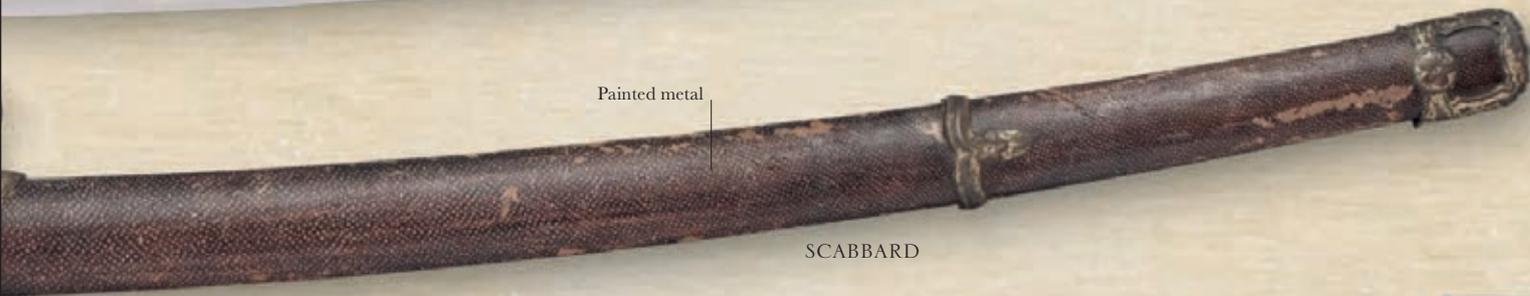
Sheath made of leather

Belt loop

SHEATH



Painted metal



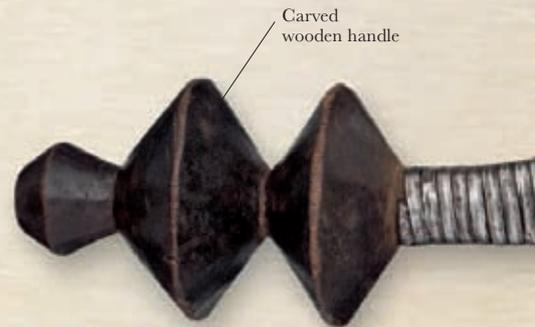
SCABBARD

MODERN AFRICAN BLADES

By the early 20th century, most of the industrial world had given up on blades as combat weapons in favor of firearms. However, the use of knives and swords for combat in Africa persisted for longer. Many were in use long after the European colonial powers took over most parts of Africa. The types of blade and the design of various knives and swords reflected the cultures from which they came. Post 1945, the sale of firearms to Africa increased as the communists and capitalists wanted to fuel proxy wars. This spread of firearms pushed elaborate, expensive blades into largely ceremonial roles.



SCABBARD



Carved wooden handle



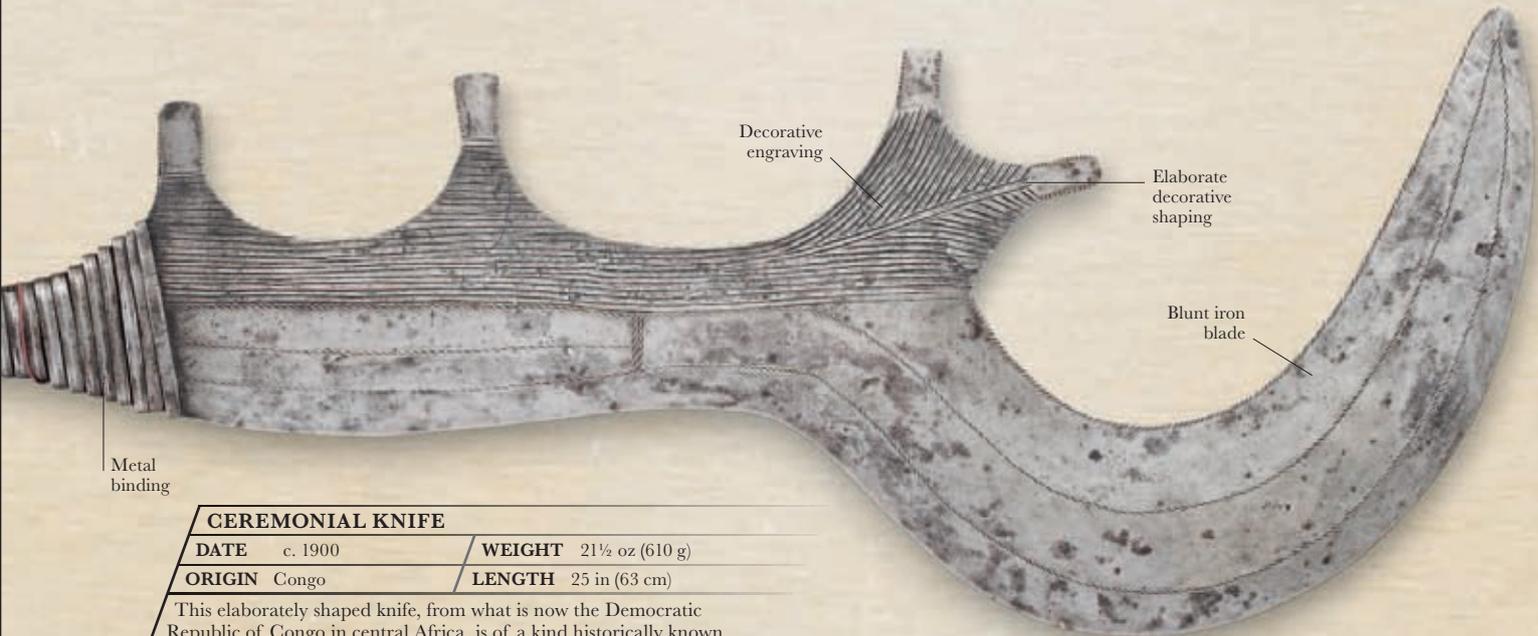
Silver overlay

Peacock-tail pommel

WOODEN-HILTED DAGGER

DATE	19th century	WEIGHT	8 oz (230 g)
ORIGIN	North Africa	LENGTH	14¾ in (37.5 cm)

The peacock-tail shape of this dagger's pommel is functional as well as decorative, providing protection for the back of the hand. It is typical of a *koummya*, a curved dagger used by peoples of northern Africa, especially Morocco. The elaborate sheath, overlaid with silver on one side, was hung on a baldric (an ornamental belt made of silk or leather) and worn on the left hip.



Metal binding

Decorative engraving

Elaborate decorative shaping

Blunt iron blade

CEREMONIAL KNIFE

DATE c. 1900 / **WEIGHT** 21½ oz (610 g)

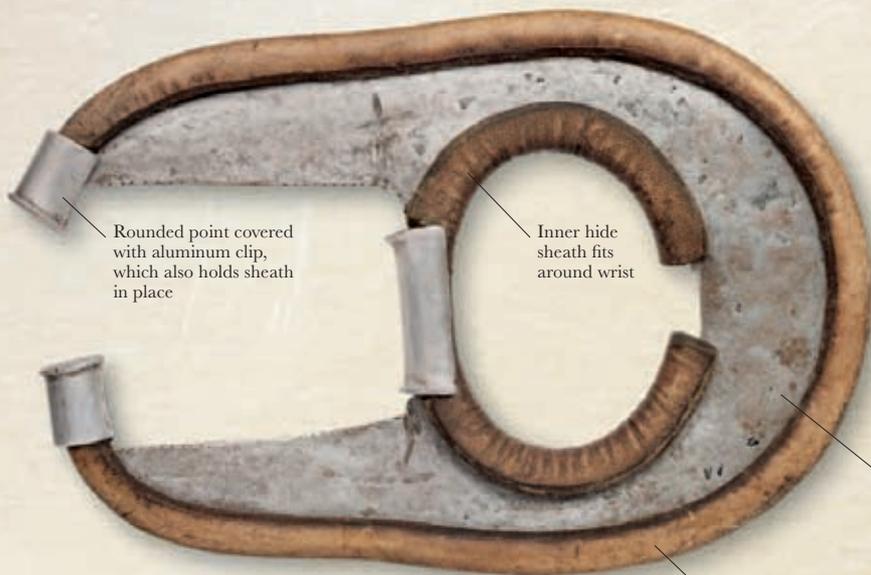
ORIGIN Congo / **LENGTH** 25 in (63 cm)

This elaborately shaped knife, from what is now the Democratic Republic of Congo in central Africa, is of a kind historically known as an execution knife. Such knives were, however, also used for ceremonial purposes in cults and rituals. Made of iron, they were highly valued trade items and functioned, on occasion, as money—iron was a common form of currency in Africa.



Double-edged blade

Blade curved to resemble a boar's tusk



Rounded point covered with aluminum clip, which also holds sheath in place

Inner hide sheath fits around wrist

Circular knife blade



Thin sheet-iron blade

LARIM FIGHTING BRACELET

DATE 20th century / **WEIGHT** 2½ oz (70 g)

ORIGIN Sudan / **LENGTH** 5½ in (14 cm)

Known to the Larim people of southern Sudan as a *nyepel*, this unusual weapon is a two-pointed knife worn on the wrist. Before entering a fight, the warrior would remove the outer sheath, uncovering the sharp edge and slightly rounded tips of the hammered iron blade. Similar fighting bracelets and sheaths were used by other Sudanese peoples.

Hide sheath attached around outside edge of blade

UGANDAN FINGER KNIFE

DATE c. 1890–1950 / **WEIGHT** 1¼ oz (50 g)

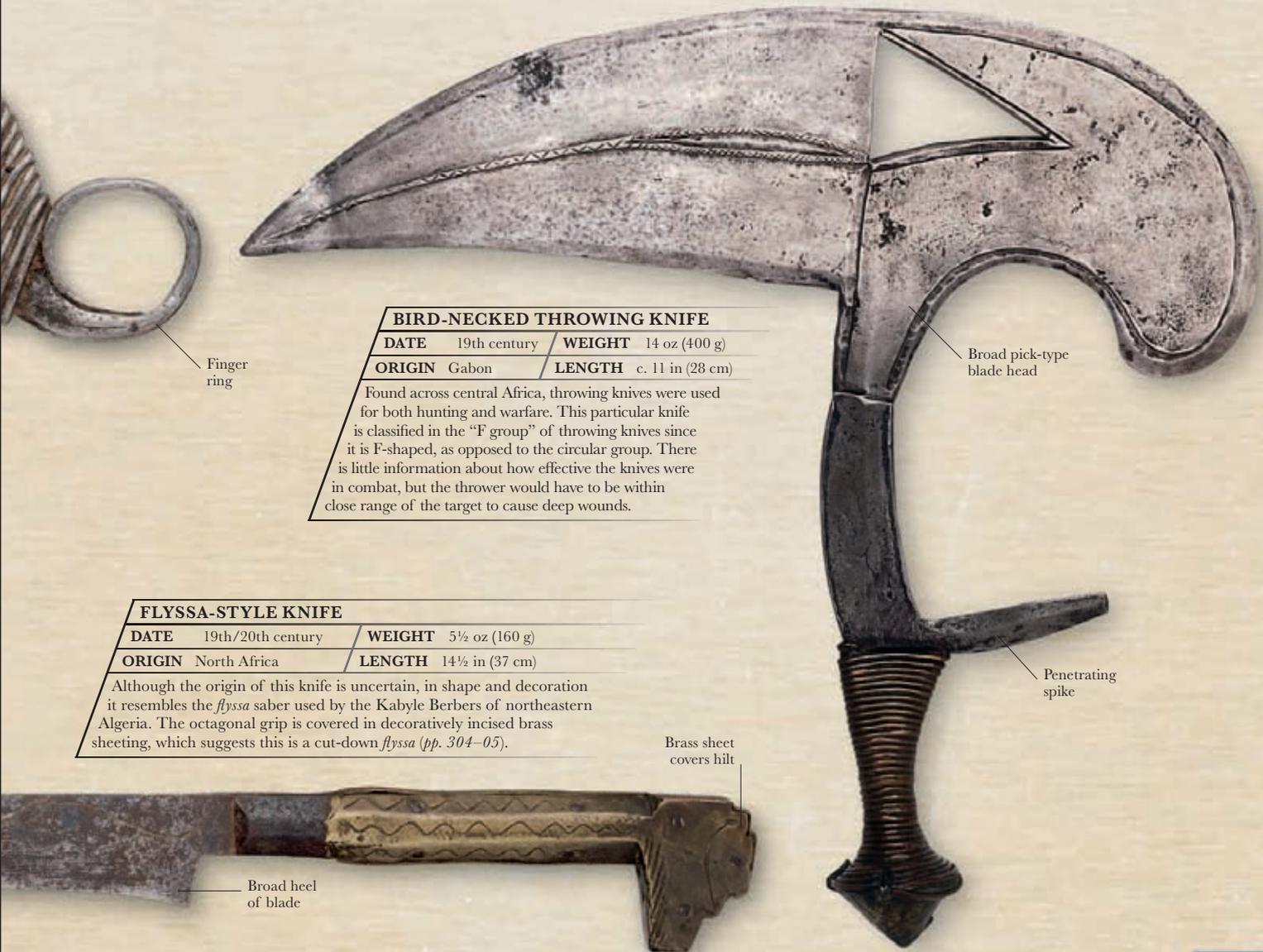
ORIGIN Uganda / **LENGTH** 3¼ in (9.5 cm)

This small, almost circular knife probably comes from the Labwor people of northeastern Uganda. Made of iron, it was worn on a finger. Aside from fighting, it could also be used for everyday purposes such as cutting meat. Its advantage as a weapon lay in its diminutive size—it could be easily concealed in the hand.



Triangular pattern decoration

Straight back of blade



BIRD-NECKED THROWING KNIFE

DATE 19th century / **WEIGHT** 14 oz (400 g)

ORIGIN Gabon / **LENGTH** c. 11 in (28 cm)

Found across central Africa, throwing knives were used for both hunting and warfare. This particular knife is classified in the “F group” of throwing knives since it is F-shaped, as opposed to the circular group. There is little information about how effective the knives were in combat, but the thrower would have to be within close range of the target to cause deep wounds.

Finger ring

Broad pick-type blade head

FLYSSA-STYLE KNIFE

DATE 19th/20th century / **WEIGHT** 5½ oz (160 g)

ORIGIN North Africa / **LENGTH** 14½ in (37 cm)

Although the origin of this knife is uncertain, in shape and decoration it resembles the *flyssa* saber used by the Kabyle Berbers of northeastern Algeria. The octagonal grip is covered in decoratively incised brass sheeting, which suggests this is a cut-down *flyssa* (pp. 304–05).

Penetrating spike

Brass sheet covers hilt

Broad heel of blade

KASAI COPPER DAGGER

DATE c. 1900 / **WEIGHT** 14 oz (400 g)

ORIGIN Congo / **LENGTH** c. 9 in (23 cm)

Originating from the Kasai region of what is now the Democratic Republic of Congo, the distinctive design of this copper-bladed dagger seems to have been influenced by models from the Islamic world. The hilt is shaped to form a comfortable grip.

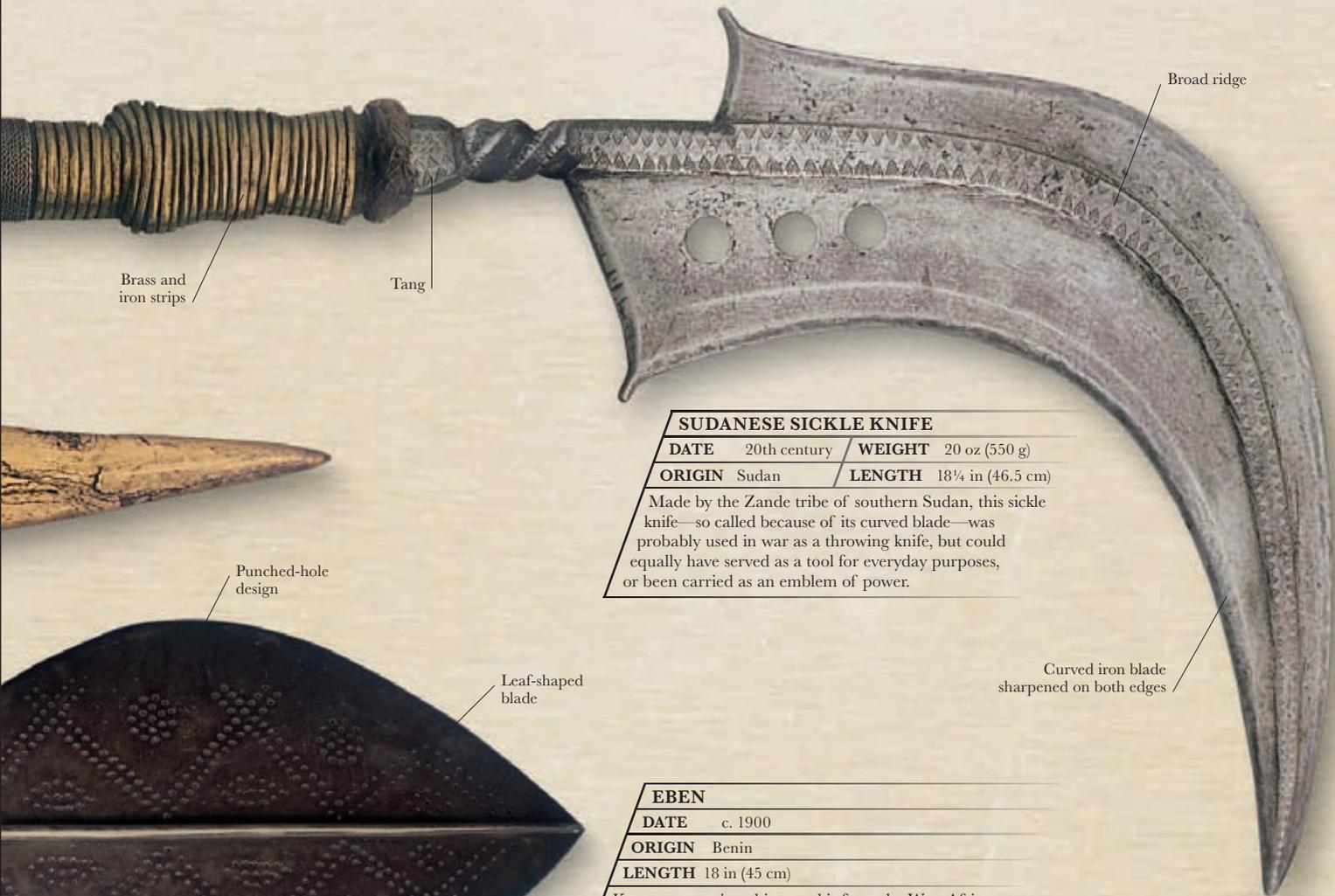
Polished-wood
pommel

Decorated hilt

Copper blade

Terminal brass ring

Carved ivory hilt



Brass and iron strips

Tang

Broad ridge

SUDANESE SICKLE KNIFE

DATE	20th century	WEIGHT	20 oz (550 g)
ORIGIN	Sudan	LENGTH	18¾ in (46.5 cm)

Made by the Zande tribe of southern Sudan, this sickle knife—so called because of its curved blade—was probably used in war as a throwing knife, but could equally have served as a tool for everyday purposes, or been carried as an emblem of power.

Punched-hole design

Leaf-shaped blade

Curved iron blade sharpened on both edges

EBEN

DATE	c. 1900
ORIGIN	Benin
LENGTH	18 in (45 cm)

Known as an *eben*, this sword is from the West African kingdom of Benin. Traditionally made of iron by Benin's blacksmiths' guilds, *eben* were carried by the Oba, the state's sacred ruler, and by his chief warriors.

BOTSWANAN BATTLE-AX

DATE 19th century

ORIGIN Botswana

This elaborate battle-ax is likely to have been ceremonial in purpose. Its design, particularly the way in which the blade attaches to the shaft by a thin metal projection, would make it difficult for the battle-ax to withstand the rigors of combat. Tribal inscriptions decorate the bottom portion of the blade, which is also edged on the inside.



Double-edged steel blade

Tribal inscriptions etched into metal

Reinforced portion of shaft



Wooden balls covered with gold



FULL VIEW



Ridged handle

CEREMONIAL SWORD

DATE c. 1870

ORIGIN Ashanti

This sword belonged to Kofi Karikari, ruler of the West African Ashanti kingdom from 1867 to 1874. It was an object of prestige rather than a weapon—its iron blade is unsharpened. The golden balls, representing seeds, are symbols of wealth and fertility.

Punched decoration

Unsharpened iron blade

Curved metal blade

Double-pointed blade

FULL VIEW

CONGOLESE THROWING KNIFE

DATE c. 20th century

ORIGIN Congo

Eccentrically shaped multibladed throwing knives are found in many parts of Africa. This example is from the Democratic Republic of Congo. When the knife is thrown it turns on its center of gravity, causing the blades to scythe dangerously through the air. No matter which part of the knife made contact with the victim, it would have inflicted serious injury.

POSTWAR BAYONETS

In the aftermath of World War II, it was widely recognized that bayonets had a limited role on the modern battlefield, at least in terms of combat. Yet as last-resort weapons, or for utility purposes, they still had a place. Postwar bayonets tend to be short (long bayonets would adversely affect the balance of assault rifles), and often combine the properties of fighting knife and bayonet in one. Many also incorporate special utility features such as wire cutters.

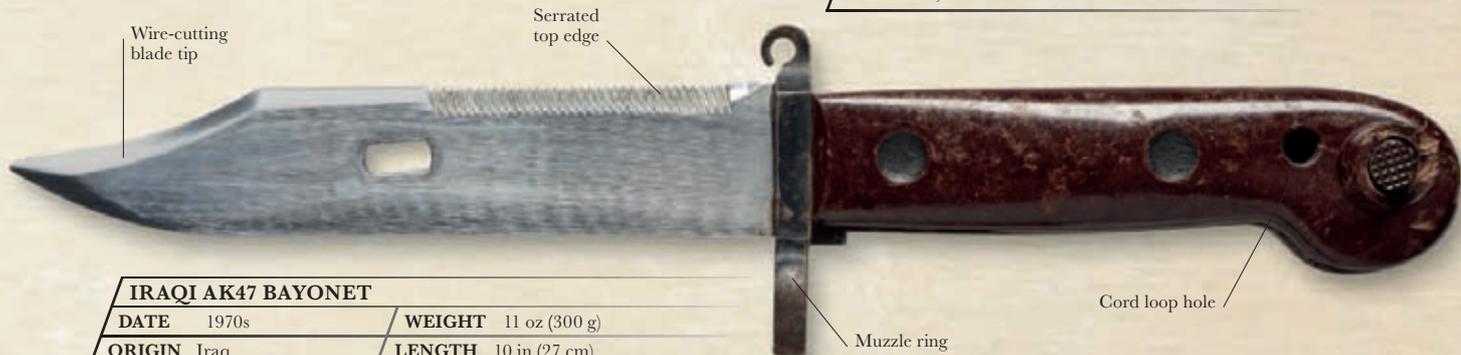


Bayonet shaft fits over flash hider

BRITISH L3A1 BAYONET

DATE	1990s	WEIGHT	c. 9 oz (250 g)
ORIGIN	UK	LENGTH	10 in (25 cm)

The bayonet supplied with the LA85 rifle has a shaft that fits over the flash hider of the muzzle, a device that reduces the visibility of burning gases emanating from the muzzle on firing. A lug on the bayonet's scabbard fits the slot in the blade and the ensemble becomes a pair of wire cutters, an idea borrowed from the Soviet AKM rifle.



Wire-cutting blade tip

Serrated top edge

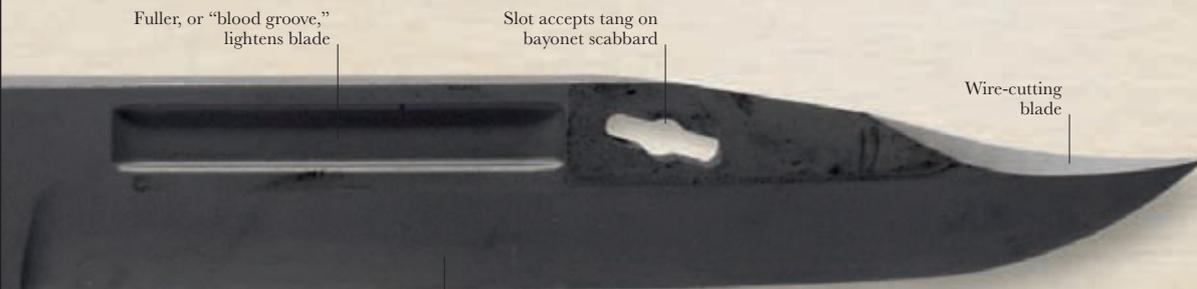
IRAQI AK47 BAYONET

DATE	1970s	WEIGHT	11 oz (300 g)
ORIGIN	Iraq	LENGTH	10 in (27 cm)

This Iraqi copy of the AK47 bayonet has all the features of the original. A slot in the blade enables the bayonet to lock to the scabbard, turning the knife into a scissorlike wire cutter. The synthetic hilt does not conduct electricity, which means the knife is capable of cutting electrical cables.

Cord loop hole

Muzzle ring

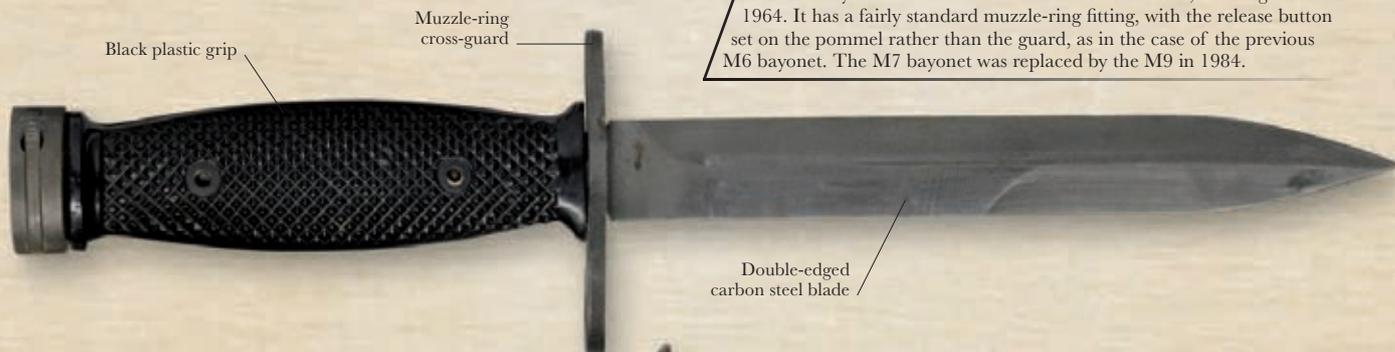


Matte-black blade

US M7 BAYONET

DATE	1970s	WEIGHT	c. 3½ lb (1.5 kg)
ORIGIN	USA	LENGTH	12 in (30.5 cm)

The M7 bayonet was introduced for the US M16 rifle, entering service in 1964. It has a fairly standard muzzle-ring fitting, with the release button set on the pommel rather than the guard, as in the case of the previous M6 bayonet. The M7 bayonet was replaced by the M9 in 1984.



GLOSSARY

BARB A narrow, tapering projection at the end of an arrowhead, pointing backward. Barbs made it difficult to remove the arrow from the victim's flesh after penetration.

BASKET-HILT GUARD A hand guard of a sword that encases the wielder's hand like a basket.

BAYONET A blade designed to fit into, over, under, or around a rifle's muzzle. This allowed the soldier to use the gun as a stabbing weapon in close-quarters combat.

BLUEING A process of chemical treatment, using blue oxide, to prevent steel from rusting.

BODKIN A small, pointed multipurpose tool, often part of a hunting kit in 17th-century Europe.

BODKIN POINT A small arrowhead with a square cross-section, capable of penetrating armor.

BOLT A type of arrow fired from a crossbow. Bolts were shorter and thicker than arrows fired from bows.

BOSHI A line of bright steel at the point of a Japanese blade, created when forming the cutting edge of the blade during the process of tempering.

BOW NOCK A notch in a bow to attach the string; also a notch in an arrow to keep it in place as the bowstring is drawn.

BRAZING A process of joining metals together using a filler solder or alloy, such as brass.

BROADSWORD A double-edged cutting sword with a broad blade. Broadswords were extremely popular in medieval Europe.

CASTING A process of solidifying liquid metal to a given shape, in a particular mold.

CHAPE Protective metallic cap on the tip of a scabbard.

CLAYMORE A generic term applied to two types of Scottish sword used from the 16th to the 18th centuries—one was a two-handed sword with a cross-guard, the other was a broadsword with a basket hilt.

CLEAVER A heavy cutting weapon with a sharp, single-edged blade. Cleavers were an essential component of the medieval hunter's gear and were used for slicing through animal joints.

COLICHEMARDE A type of smallsword with a wide forte, often with multiple fullers. Typically, the blade narrowed after the fullers ended. Its light weight made the sword a useful parrying weapon.

COMPOSITE BOW A bow made of multiple layers, combining wood with bone, horn, or sinew.

CROSSBOW A mechanical bow used for shooting wooden or metal bolts. The user did not have to hold the bowstring manually in order to keep the crossbow loaded.

CROSS-GUARD A straight hand guard just below a sword's blade. It extended from both sides of the blade, which made the sword resemble a cross.

CROSS-SECTION The shape of a blade when viewed at a right angle to its long axis. It can be of various shapes. Blades with diamond or lozenge cross-sections were thick in the middle, and therefore rigid.

CUP-HILT GUARD A hand guard in the shape of a cup; it was popular in the 17th century, when many European rapiers featured cup hilts.

CUTLASS A heavy, curved sword, traditionally used by sailors.

DAISHO The Japanese term for the pairing of a long sword (*katana*) with a shorter sword (*wakazashi*).

ÉPÉE A fencing weapon developed in the 19th century. Similar in design to the smallsword, it had a blunt tip and was used for thrusting.

FALSE EDGE An additional bevel or surface on the back edge of the blade of a sword, which may or may not be sharpened. False edges were used for backhand strikes.

FERRULE A metal band used to secure the leather or wire wrapping on a sword's grip; also used as hilt decoration.

FIRE-WELDING A process of fusing pieces of metal using fire. Also called forge-welding, this was the only welding process followed until the end of the 19th century.

FLAKING A process of repeatedly striking a piece of flint with another stone, until a fine edge remains.

FLANGE A projecting rim or collar, typically seen on maces in the medieval period.

FLINT A type of hard stone, found in areas of chalk downland. It was extensively used to make weapons in the Paleolithic Age, about 2.5 million years to 20,000 years ago.

FLUKE A projecting spike or barb, sometimes hooked, on the head of a polearm or ax. Flukes could penetrate plate armor and were effective parrying weapons.

FOIL A light, flexible fencing weapon, with a blunt end. Introduced in Europe in the 18th century, it made fencing safer.

FORGE To shape metal by heating and hammering it. The term also refers to the hearth or smithy where forging takes place.

FORTE The strongest part of the blade just in front of the hilt. A forte may or may not be sharpened.

FULLER A groove running along the length of a sword blade, which both strengthens and lightens it.

HAMON A pattern of hardened steel on Japanese blades, created during tempering. *Hamon* varied from sword to sword, and were therefore often considered the signature of the swordsmith.

HANGER A type of sword named for the way it was hung from the belt of the user. Originally made for hunting, it became a standard military weapon by the 18th century.

HATCHET POINT A sword tip with a diagonally curved front edge.

HAUBERK A chain-mail coat or shirt, usually at least of thigh length.

HEAVY CAVALRY Heavily armed and armored mounted soldiers, primarily used to make attacks directly into enemy ranks.

HEAVY INFANTRY Heavily armed and armored foot soldiers, used mainly for fighting in close ranks against the main enemy lines.

HILT The portion of a sword or knife below the blade, including the grip, guards, and pommel.

JAVELIN A long, light spear used for throwing.

JOUST A medieval tournament game involving mounted, armored knights aiming to unseat each other with a lance strike.

KNAPPING See flaking.

KNUCKLE-DUSTER (BRASS-KNUCKLE) KNIFE A knife with studs protruding from its knuckle guard. The blade was designed for upward stabbing, and the studs were used to punch the opponent.

KNUCKLE GUARD An extension of a sword's guard running over the length of the grip; it protected the user's knuckles.

LANGET A metal strip securing the shaft of a staff weapon to its head. Also found on some swords, langets extend over both sides of the blade and fit tightly over the scabbard, keeping the sword securely sheathed.

LIGHT CAVALRY Lightly armed and armored mounted soldiers, used principally in raids and skirmishes and for reconnaissance.

LIGHT INFANTRY Lightly armed and armored foot soldiers, used primarily for skirmishes or raids.

LONGBOW A medieval bow up to 6½ ft (2 m) long, made of a single piece of yew or elm. It provided superior range and penetration compared to shorter bows.

LUG On a sword, lugs refer to projections from the blade that

served to deflect or parry an enemy sword blow away from the user.

MACE A staff weapon, usually with a spiked or flanged head. Maces were popular weapons in the medieval period, with many ornate examples made in Europe and Asia.

MACHETE A heavy, single-edged cutting blade; ideal for operations in tropical and subtropical jungles, it can easily cut through thick foliage. It is also a popular household tool in Latin American countries.

MAIL (CHAIN-MAIL) ARMOR A type of armor made from small, riveted, interlocking iron rings and worn like a coat or shirt.

MAINGAUCHE Literally meaning "left hand" in French; also used to describe a dagger held in the left hand. It was a useful weapon for parrying enemy attacks.

MÊLÉE A free-for-all battle. The *mêlée* was a popular tournament game between mounted and dismounted knights until the 14th century.

MORTISE SLOT A slot or socket cut into a bayonet, designed to fit over a gun's muzzle.

MUZZLE The open front end of a gun's barrel to which a bayonet could be fixed.

PARRYING WEAPON A weapon used to deflect enemy blows or strikes. These could be of various types, including shields and sticks.

PATTERN-WELDING A technique of fusing different pieces of metal, and then folding or twisting the fused metal to form a pattern.

PIQUÉ A type of decoration, often with inlay work of metal, ivory, shell, or horn; seen on the hilts of some hanger swords in 17th-century Europe.

PLATE ARMOR Armor made of overlapping metal plates, which was more difficult to penetrate than chain-mail armor.

PLUG BAYONET A type of bayonet that was inserted into the muzzle of a musket.

POLEARM See staff weapon.

POMMEL A counterweight, often spherical, at the top of a sword grip, to provide balance.

PRESSURE FLAKING see flaking.

QUENCHING A process of hardening steel by heating and then rapidly cooling it.

QUILLON The extension of a cross-guard on either side of the blade. Found in various shapes and sizes, quillons protect the user's hand by blocking enemy blows.

QUOIT A sharpened metal ring designed to be thrown at the enemy.

RAPIER A thrusting sword with a long blade. Although used in combat, it was more closely associated with dueling.

RICASSO The unsharpened part of the blade, just above the hilt. It gave the user the option to hold the blade as well as the hilt for a better grip.

ROCOCO An 18th-century French style of elaborate ornamentation, also seen on some European sword hilts.

RONDEL Derived from the Old French *rond*, meaning "round." The rondel dagger took its name from its disk-shaped guard and pommel.

SABER A long, single-edged cutting sword with a curved blade.

SCIMITAR A generic name for curved swords of the Islamic world, including the *kilij* and the *shamshir*.

SEAX A single-edged blade used by the Anglo-Saxons and Franks as a weapon and as a tool. Saxons probably derived their name from this weapon.

SHELL GUARD A hand guard in the form of a circular or oval plate of steel.

SHURIKEN Literally the Japanese term for small blades that could be hidden in the hand. They could be of various shapes and were often tipped with poison.

SMALLSWORD A thrusting sword, typically with a stiff, triangular blade with unsharpened edges.

SOCKET BAYONET A type of bayonet which fits around the muzzle of a firearm, allowing the user to continue firing.

STAFF WEAPON A weapon in which a blade or club was attached to a long, commonly wooden, shaft. The long shaft gave a soldier extra reach in combat.

STILETTO A long, thin dagger, popular in Italy in the 16th and 17th centuries. It derives its name from the Latin *stilus*, meaning stake or spike.

SWEPT-HILT GUARD A hand guard so named because the bars of the guard sweep upward in a curve from the ricasso to the pommel.

SWORD BAYONET A type of bayonet with a long blade. It could be used as a sword or mounted on a firearm.

TANG The hidden portion of the blade that runs through the hilt and pommel.

TEMPERING The process of removing the brittleness accumulated in metal during quenching. The metal is reheated but at a lower temperature than when quenching, and then cooled slowly.

TILLER The stock, or main body, of a crossbow, which enabled the user to hold and aim the crossbow in the same manner as a firearm.

TOMAHAWK An ax used by native North American warriors.

WATERING See pattern-welding.

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