

European Armor from the Imperial Ottoman Arsenal

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ON NOVEMBER 20, 1919, Dr. Bashford Dean, the Metropolitan Museum's first Curator of Arms and Armor, sailed for Europe on a six-month journey that would take him to England, Belgium, France, Switzerland, Germany, Czechoslovakia, Austria, Italy, Turkey, Greece, and Spain. The principal purpose of Dean's trip, his first curatorial travel abroad since the outbreak of World War I, seems to have been the purchase of objects both for the Metropolitan Museum and for his own important private collection. To this end, Dean traveled to forty-eight cities, where—by his own count—he visited a total of 649 antiquaries' shops and sixty private collections. The recent discovery of the notebooks Dean kept on this trip, together with the photographs he made at that time, have shed new light on his collecting activities and provide documentation for the date and place of purchase, and for the provenance of many of his acquisitions. Since much of this information is unrecorded elsewhere, these notebooks and photographs constitute important new sources for the history of the collections of the Department of Arms and Armor.¹

Dean's notebooks are especially useful in establishing his travel in 1919–20 as the occasion on which he acquired three important groups of early European armor, most of which came to the Metropolitan Museum following his death in 1928. Armor from before 1500 is exceedingly rare—most of it seems to have been used up or to have rusted away—and therefore was particularly prized by Dean, who considered himself a medievalist. Two of the three groups are well known to armor specialists and come

from island fortresses in the Aegean Sea—Chalcis and Rhodes.

Chalcis was the chief Venetian stronghold on the Greek island of Euboea (Negroponte), which fell to Turkish invaders in 1470. A hoard of armor was discovered there in 1840 during repairs to the military hospital that occupied the site of the former fortress. The hoard originally consisted of about one hundred helmets and several hundred elements of body armor (brigandine plates and defenses for the arms and legs), all of which had presumably belonged to the island's defenders. The ownership of the armor eventually passed to the Historical and Ethnological Museum (today the National Historical Museum) in Athens, from which Dean acquired, by exchange, virtually all of the body armor and about a dozen helmets, approximately two hundred pieces in all.²

The armor from Rhodes, like that from Chalcis, was discovered in the nineteenth century, presumably in the castle. The fortress had fallen to the Turks in 1522 after a fierce defense by the stalwart Knights of the Order of St. John of Jerusalem (who subsequently transferred their headquarters to Malta and were henceforth known as the Knights of Malta). About two hundred of the better-preserved elements of armor were purchased on the island by General J. H. Lefroy, Secretary of the Royal Artillery Institute, who sent them to the Royal Artillery Museum at Woolwich in 1866; the majority of these were transferred to the Armouries in the Tower of London in 1927.³ The remainder of the armor, much of it very badly corroded and broken, went on the art market and ended up in the hands of the Parisian antiquary



1. The Byzantine church of Hagia Eirene (St. Irene), the former imperial Ottoman arsenal. View from the west, with the outer wall of the Topkapi Sarayı in the foreground (photo: courtesy of Dumbarton Oaks Center for Byzantine Studies, Washington, D.C.)

Louis Bachereau, who sold Dean about a hundred pieces in April 1920.⁴ The majority of the Chalcis and Rhodes pieces eventually passed from Dean's estate to the Metropolitan Museum by means of bequest, gift, or purchase after the curator's death in November 1928.

Purchases of this kind were characteristic of Dean, a zoologist by training, who considered armor fragments his "fossils."⁵ With only a handful of complete, homogeneous fifteenth-century armors in existence, and with little hope that any of them would come on the market, Dean saw in these elements the possibility of reconstructing "Gothic" armors (i.e., those dating from before 1500) from genuine but disparate elements, much as a paleontologist would reconstruct a complete dinosaur from a few excavated bones. Indeed, a number of the Chalcis and Rhodes elements,

thoroughly cleaned and repaired, eventually were incorporated into composite armors, *cap à pie*, including eight harnesses now in the Metropolitan Museum.⁶

Dean's notebooks also reveal that the trip of 1919–20 netted him a third, previously unrecorded group of early armor of Eastern Mediterranean origin, closely related to those from Chalcis and Rhodes. This group comprises five European helmets that Dean purchased directly from the authorities of the Military Museum (Askeri Müze) in Constantinople (modern Istanbul). As the Military Museum contains the core of the former Ottoman arsenal, it is generally assumed that most of the European arms and armor in that collection are booty captured from Christian knights who fell in battle against the Turks in the Holy Land, in the Mediterranean and Aegean regions, or in Eastern Europe. Four of the helmets are now in the Metropolitan Museum's collection; the fifth is in the Kienbusch Collection in the Philadelphia Museum of Art. Although all of these helmets have been published on earlier occasions, nothing was hitherto known of their provenance. The pur-

pose of this article is to examine these helmets once again in the light of their newly discovered Turkish source and at the same time to focus attention on what must be one of the last great and still largely unknown holdings of European arms and armor, the former imperial Ottoman arsenal in Istanbul.

THE ARSENAL OF ST. IRENE

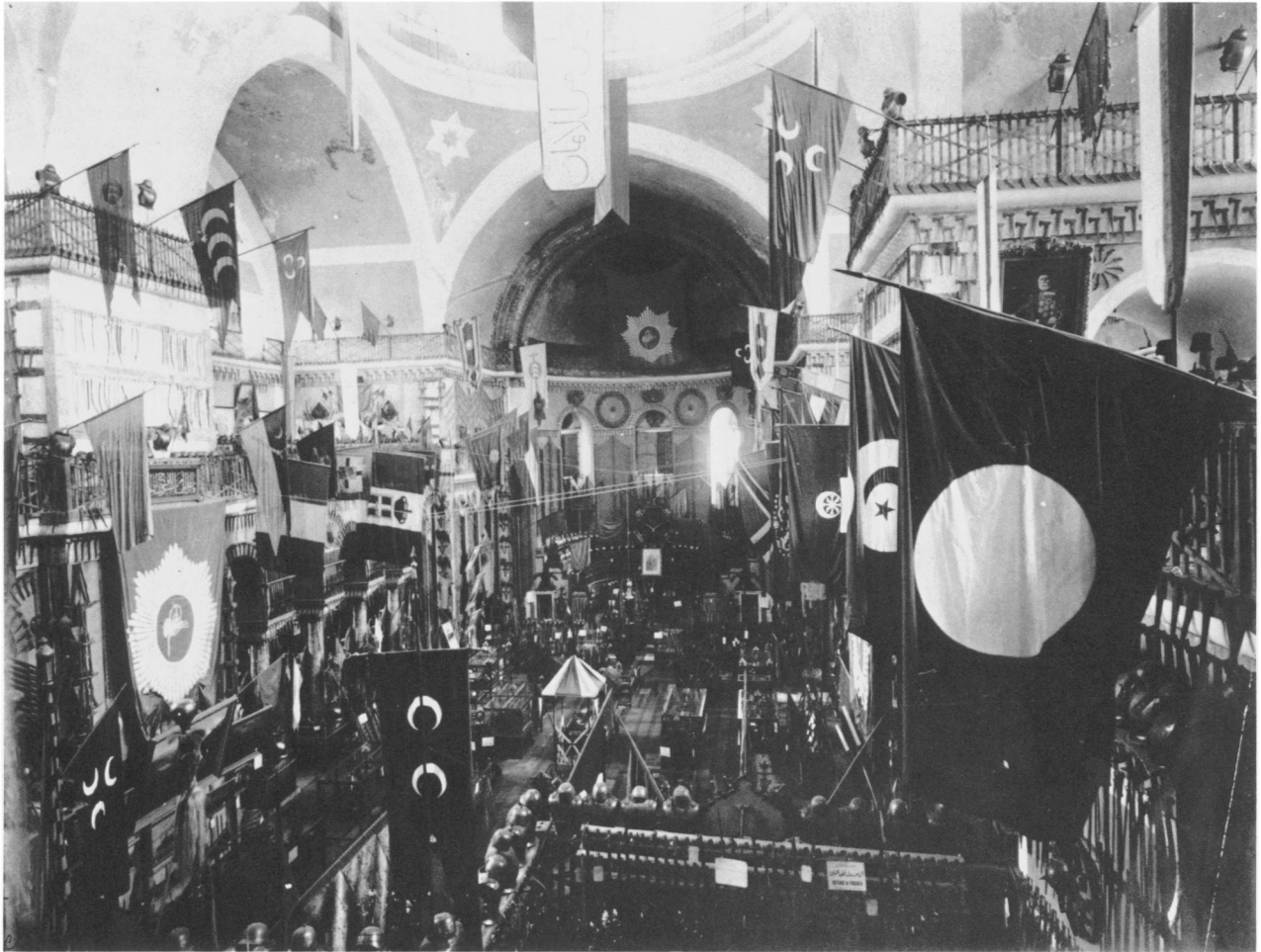
Following the fall of the Byzantine capital of Constantinople in 1453, the Ottoman Sultan Mehmed II, known as the Conqueror, ordered the construction of a palace complex on the hill overlooking the city and the Bosphorus. This palace, the Topkapi Sarayı, enclosed within its precinct the Byzantine church of Hagia Eirene, known in English as St. Irene (Figure 1). Under the new Muslim rule, the church was taken over as an arsenal.⁷ Thus it was that the former Christian church, built by Emperor Justinian in the sixth century, came to serve as a depot for the military equipment of the sultan's guard and as a repository for the trophies of arms and military regalia taken by the Turks. These trophies eventually came to include those of the Persians, defeated in 1514, and of the Mamluk kingdom in Egypt and Syria, which fell in 1517, not to mention the arms of Christian knights. Located in the first, or outermost, courtyard of the palace complex, where the sultan's guard were housed and which was accessible to the public, the arsenal not only served a practical military purpose but also had propagandistic value as a symbol of imperial Ottoman conquest.⁸

During the reign of Sultan Ahmed III (1703–30), it was decided to create a national military museum after the manner of European examples. The collections of the arsenal were reorganized and the new *dâr al-asliha* ("maison d'armes") was opened in 1726. In the years that followed, however, the arsenal suffered many losses. During the reign of Selim III (1789–1807), the revolution of the Janissaries, the sultan's politically powerful elite troops, led to the looting of some of the arsenal's holdings. The subsequent abolition and brutal destruction of the Janissaries in 1826 entailed the eradication of all traces of the corps, including their equipment. As a result, many objects associated with the Janissaries were removed from the arsenal and destroyed. At about the same time, a number of precious arms were trans-

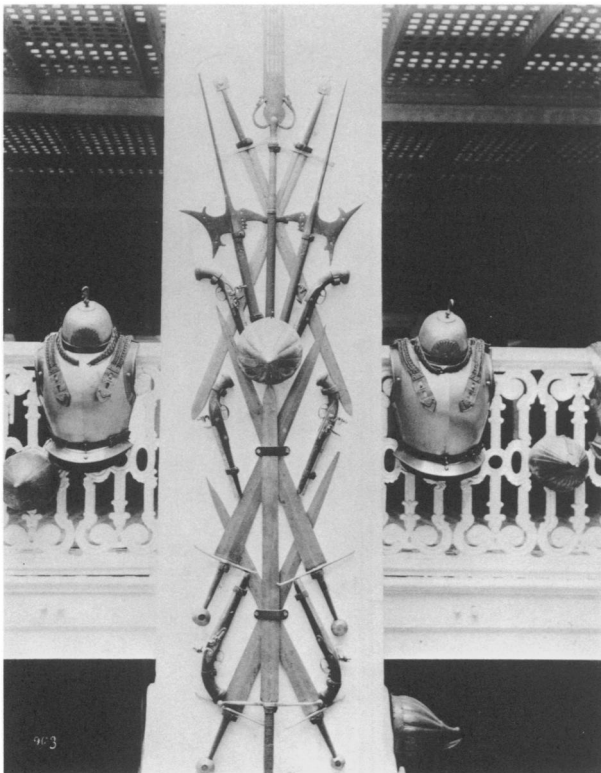
ferred to the imperial treasury and others were presented as gifts to foreigners.⁹

Perhaps the greatest loss to the arsenal's collections occurred about 1839–40, at the beginning of the reign of Sultan Abdul Mejid I (ruled 1839–61), when vast quantities of European and Islamic armor and weapons were thrown out of St. Irene, apparently as scrap. Many of these arms, recognizable by the so-called arsenal mark¹⁰ incised into the iron surfaces, found their way to Europe and are now in museums and private collections around the world. The Metropolitan Museum alone possesses more than one hundred pieces bearing this mark, an indication of the enormous amount of material that must have originally been discarded.¹¹ The circumstances surrounding this event were fortunately recorded by Robert Curzon (1810–73), Baron Zouche of Parham, a frequent traveler to the Middle East and former consular attaché in Constantinople (1841–44), as well as a collector of arms and armor:

When the present Sultan, Abdul Medjid, came to the throne, he was introduced, according to ancient custom, to the various places, public buildings, and treasuries of his predecessors. . . . The new sultan went to St. Sofia and the Seraglio. Here the first building he entered was the ancient church of St. Irene, which had been converted into an armory by Mahomed II, who filled it with his own armour, that of former sultans, and the spoils of the Christian defenders of Constantinople. All this collection the new sultan ordered to be cleared away and the walls new whitewashed, which was done accordingly. The inferior authorities, however, preserved the swords of Abu Bekir, and the arms and armour of several famous personages, as well as some pieces of armour that were covered with gold and richly ornamented. The plague was then raging at Constantinople, and a Genoese vessel, fearing to lade an infectious cargo, bought as much of this armour, at the price of old iron, as could be stowed away in her hold. On arriving at Genoa it was shovelled out upon the quay: nobody bought it, and [a] great part was carried away by the boys for playthings, and many old helmets were used by poor people as kettles or cooking vessels. The remainder, much damaged by the salt water, rain, and breakage, was at length purchased by a Genoese gentleman, in whose hands I found it. I bought as much as he would then sell, but subsequently he became wearied with ineffectual attempts to arrange the suits with historical propriety, and disposed of much more of the collection. Some was purchased by persons at Milan, other portions found buyers in other parts of Italy, and the remainder was brought to England.¹²



2. The interior of St. Irene when utilized as the Turkish Military Museum. View looking toward the nave and sanctuary at the east end, ca. 1900



Curzon's report indicates that, with the exception of certain pieces of particular artistic value or historical associations, the majority of the arms in the arsenal were disposed of at that time. Photographs of the interior of St. Irene taken around 1900 (Figure 2) show that, on the contrary, a vast collection remained. The walls of the cavernous interior were covered with tightly packed military arms, and there can be seen numerous vitrines filled with oriental armor and weapons, manikins dressed in ethnic costumes, decorative trophies mounted high on the walls, and banners hanging from the balconies above.

3. A panoply of arms, including European swords dating from the 14th and 15th centuries, forming part of the decoration of the Military Museum, ca. 1900

The photographs appear to record the arrangement made by Marshal Fehti Pacha, who, during the reign of Sultan Abdul-Hamid II (1876–1909), was



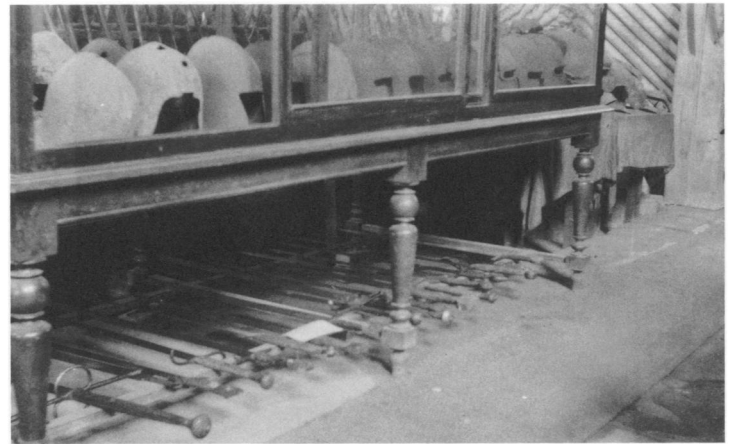
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charged with the rearrangement of the arsenal. Fehti Pacha was especially praised for his introduction of the panoplies of arms, which are, as may be seen in the photographs (Figure 3), so distinctive a feature in the collection's arrangement.¹³

Curzon's account and the photographs of the interior of St. Irene, which show mostly Turkish arms and armor, gave rise to the widely held belief that, with the exception of the European swords incorporated into the panoplies, no European arms and armor remained in the arsenal.¹⁴ That this was not the case is demonstrated by a remarkable series of photographs (Figures 4–20) taken by Dean in the Military Museum in Istanbul in 1920. These photographs show numerous European helmets, elements of armor, and swords in vitrines, on tabletops, and on the floor. In the courtyard of the Military Museum



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4–8.

The interior of the Military Museum in 1920, showing the great stores of helmets, armor parts, and swords, mostly of European origin (photos: B. Dean)



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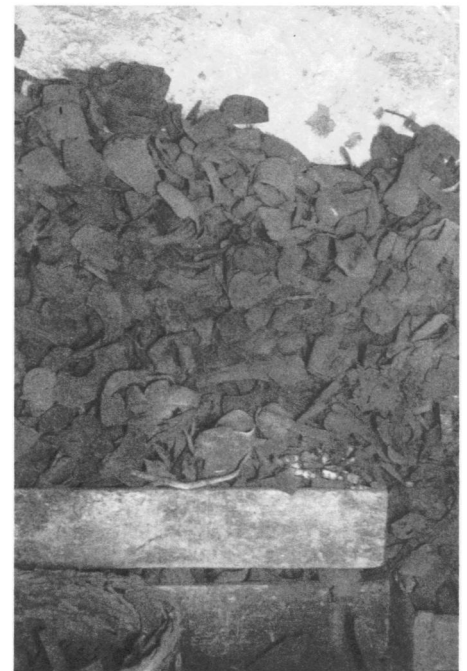
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(originally the atrium of the former Byzantine church), among the cannon, there were about a dozen rough crates filled with hundreds of armor fragments, with more fragments spilling onto the pavement between the boxes (Figures 9, 10). These seem to have been brought outside, presumably from storage areas within the building, for Dean's benefit. The condition of these fragments was ruinous, the majority of them being heavily corroded and many badly broken. Recognizable among the pieces are several sixteenth-century Italian pauldrons and tassets, and it is safe to assume that a great many of the other pieces were likewise of European origin. The saddest sight of all is the mound of armor fragments piled high against a wall like a rubbish heap (Figure 11). A similar sight may have presented itself on the quay in Genoa, when the arms discarded in Constantinople in 1839–40 were unloaded from the ship's hold.

The discovery of such an enormous, unpublished collection of European armor must have thrilled Dean. He evidently set about to record as much of it as possible, concentrating on the helmets, which were more readily accessible and therefore easier to study and photograph than the armor fragments. Nine of Dean's photographs are preserved (Figures 12–20),

9–10. The courtyard of the Military Museum in 1920, showing the unpacking of crates of rusted armor parts of both European and Islamic origin (photos: B. Dean)

11. A pile of armor parts, apparently in the courtyard of the Military Museum, 1920 (photo: B. Dean)



11

each showing six to eight helmets arranged in two tiers on a table. In all, sixty-six examples are recorded, representing almost every helmet type in use between the late fourteenth and the mid-seventeenth century: basinets, barbutes, sallets, war hats, armets, close helmets, burgonets, and *Zischägge*. Not only do

these photographs illustrate dozens of helmets, many of unusual construction or shape not previously known to arms and armor specialists, but they also record a large number of pieces that are no longer to be found in the Military Museum in Istanbul.¹⁵ For these reasons it is important to reproduce all of Dean's photographs.

The photographs have been arranged in the approximate chronological order of the helmets they illustrate, and what follows is a brief commentary of the types of helmets shown in each photo. In the absence of firsthand knowledge of the helmets, it seems best to keep the descriptions to a minimum and to let the photographs speak for themselves. For ease of identification, the helmets in each group are lettered consecutively, reading from left to right across the top row and then across the bottom.

12–20. European helmets photographed by Bashford Dean in the Military Museum in 1920

Figure 12

This group includes the earliest datable helmets among those photographed by Dean and is of particular interest because several of the helmets correspond closely to those found at Chalcis, which, as noted earlier, fell to the Turks in 1470. While it is conceivable that some of the helmets in Istanbul might originally have come from Chalcis as booty, there is no evidence to substantiate such a claim.¹⁶

The earliest helmet in this group is the second one from the left on the top row (b). The tall, conical skull is formed of one plate; the point at the apex is set slightly to the rear, the nape is deep and bell-shaped, and the face-opening is shaped like an inverted U, with a slight depression at the center of the brow. A series of closely set rivet holes descends diagonally from the face-opening toward the bottom edge and continues around the back; these probably served for the attachment of the helmet lining. A second series of more widely spaced holes (some apparently rusted closed) follows the same line; these formerly held the pierced staples (*vervelles*) to which would have been attached an aventail, a curtainlike defense of mail that covered the lower face, neck,

and shoulders. Two upward-pointing hooks placed one above the other are located at the front of the skull above the face-opening; these presumably held either a nasal or a centrally pivoted visor (*Klappvisier*).

Conical helmets fitted with aventails, with or without nasals or visors, were worn throughout most of the fourteenth century and are generally known in English as basinet. A very similar basinet is found in the Wallace Collection, London, and three others, all of them from Chalcis, are found in the Historical Museum, Athens, in the Cleveland Museum of Art, and in the Metropolitan Museum.¹⁷ These examples are usually dated to the end of the fourteenth century, a date that would be equally appropriate for the basinet in Istanbul.

Very similar to the basinet are the two deep barbutes (a,c), which differ from the basinet in that they were not intended to be worn with an aventail and were never fitted with a nasal or visor. Like the basinet, these barbutes tend to be dated to the late fourteenth or early fifteenth century.¹⁸ Similar examples of this early form of barbute are found among the Chalcis material in Athens and New York.¹⁹

Also related to the Chalcis group is the visorless helmet with pointed skull (e), which has a pronounced vertical ridge, or keel, down the sides and a series of holes for lining rivets along the edge. A number of barbutes and sallets from Chalcis have faceted skulls, a feature rarely found elsewhere.²⁰ This helmet would appear to be a form of late-fourteenth-century basinet, though no holes for the *vervelles* are visible in the photograph.

This group also includes a "Spanish" sallet (d), a distinctive helmet type usually dated to the late



fifteenth century. Similar close-fitting head coverings, distinguished by their cusped face-openings and slits at the sides to accommodate the ears, with lining holes pierced along the edges, frequently appear in Spanish paintings. However, a helmet of this type was found among the Chalcis hoard and is stamped with an armorer's mark of Italian character.²¹ It is likely, therefore, that the type was also used in Venice and generally earlier than has been thought, certainly before 1470.

Another helmet (g) poses something of a mystery. At first glance it might be the skull of a two-part "great sallet"—as it is called by Boccia—of a type usually associated with the Chalcis armor. This type of helmet was constructed of a skull, usually with an ogival pointed apex and a cusp over each eye, and, riveted along the bottom edge of the skull, a deep neck guard, which encircled the sides and back of the head and neck.²² The helmet in Dean's photograph, however, appears to have a rounded skull, possibly ending in a knob at the apex (on the other hand, what appears to be a damaged knob may be a blemish in the fabric in the background or a blemish on the negative), with a relatively straight lower edge (pierced irregularly with rivet holes) and no indication of a face-opening. It is therefore not possible to identify it as part of a great sallet, though it is difficult to classify the helmet otherwise.

The last two helmets (f,h) in this group are kettle hats, or war hats: wide-brimmed, open-faced helmets generally worn by the infantry throughout the later Middle Ages and well into the seventeenth century. One of these (f), with a rounded skull and downturned brim, has lining holes around the base of the skull and an unusual bracketlike feature at one end. The form of this helmet points to an origin in the fifteenth century, although the presence of the bracket suggests that the helmet may have been adapted in the seventeenth century with a sliding nasal, a common feature on Turkish and Eastern European helmets of that period.²³ The second war hat (h) is unique. Its tall, pointed skull with its dramatically countercurved, or ogival, profile is a marvel of metalworking. The profile of the skull, with its apex set almost vertically at the back, calls to mind basinetts of the late fourteenth or early fifteenth century, although similar-looking war hats with pointed skulls are depicted in paintings over a long period.²⁴

Figure 13

This group comprises eight open-faced Italian helmets of sallet and barbute type, dating from between about 1450 and 1500–10. The term "sallet" (from the Italian *celata*) refers to a large category of head covering worn throughout the fifteenth century. Usually formed from one plate, the sallet generally had a rounded profile and was shaped to the back of the head, flaring out at the nape to form a short tail. The comb was often pierced by a small circular or keyhole-shaped aperture for fixing a crest-holder. Both deep and shallow variants are common, some open-faced, others with visors. A distinctive subgroup of the sallet, generally referred to as the barbute (*barbute* in Italian), has a particularly deep shape, reaching almost to the shoulders, and a characteristic T-shaped face-opening invariably reinforced by a riveted-on iron rim.²⁵ This photograph illustrates six barbutes (a–d,f,h), three of which retain the reinforcement at the face-opening. The sallet located third from the left on the bottom row (g) is very similar in form to the barbutes nearby, differing from them only in its rounded face-opening, the edges of which are rolled outward for reinforcement. Similar barbutes and sallets were found at Chalcis, and they can be dated to approximately 1450–70.²⁶ The sallet at the left on the bottom row (e) differs from the other helmets in having the sides of the face-opening cut away in a sweeping curve that carries back to the nape. The swept profile and the tall comb suggest an early-sixteenth-century date.²⁷ The metal strip that covers the keel of the skull may be an old repair, and is reminiscent of a similar repair made to the skull of a basinet found at Chalcis and still preserved in Athens.²⁸

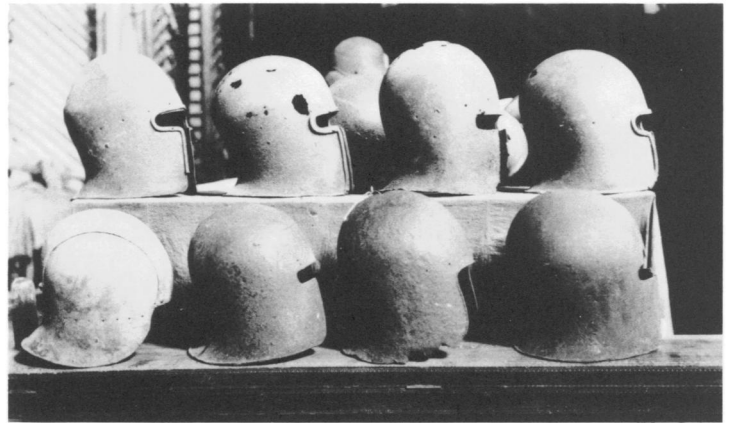
Figure 14

Eight more Italian sallets are shown in this photograph, with a similar range in date between about 1450 and 1510. The tall sallet, second from the left on the top row (b), has a series of holes pierced along its edges, probably for the attachment of a fabric cover; sallets covered with fabric (usually red velvet) and gilt-metal mounts are known from contemporary records as *celate alla veneziana*, as they seem to

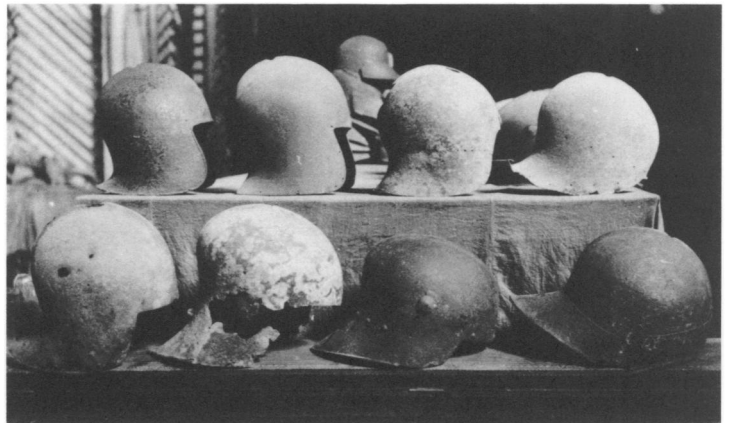
have been a Venetian specialty and continued to be worn on ceremonial occasions well into the seventeenth century and apparently even later.²⁹ The first three sallets from the left on the bottom row (e,f,g) were formerly fitted with visors, of which the right pivot, together with a fragment of the visor's arm, remains on one (g). A similarly shaped sallet skull was also found at Chalcis, though it seems never to have had a visor.³⁰ The last of the sallets on the bottom row (h) is also the latest type in terms of development. The skull is no longer formed of one plate but has a separate riveted-on brow reinforce and tail plate. Whereas this distinctly Italian type of infantry helmet was common at the end of the fifteenth century, its presence among the Chalcis group indicates that it was fully developed by 1470. Twelve helmets of this type, only one of them complete in all its parts, remain in Athens³¹ and, according to Dean's notes, there were twenty-eight examples in Istanbul.³² A stack of these sallets, one atop the other, can be distinguished in the background of this photograph and is even more clearly visible in Figure 15.

Figure 15

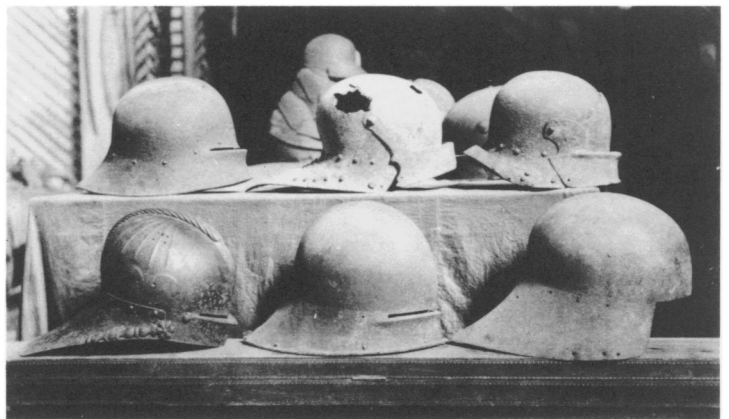
This group comprises six sallets of distinctly northern European type. Presumably all are of German or Austrian manufacture and the majority of them can be dated to the last third of the fifteenth century. Two of the sallets are made in one piece pierced with a horizontal sight (a,e). The third helmet from the left on the bottom row (f) is of unusually large proportions and seems to have a hole in the side of the skull for a pivoted visor. Two more or less complete visored sallets are seen on the top row. The first of these (b) is notable for its decoratively cusped brow plate and for the exceptional number (five) of tail lames. The severe damage to the skull suggests that the helmet may have been a battlefield souvenir. The second of the visored sallets (c) is also fitted with a brow plate and an articulated tail (of which only two lames remain), and is notable for the unusual shape of its visor, with its sharply arched arm and diagonal rear edge. The latest sallet in the group, the first at the left on the bottom row (d), is a special kind of sallet used in a German form of joust known as the *Rennen*. This helmet, now in the Metropolitan Museum, will be discussed below.



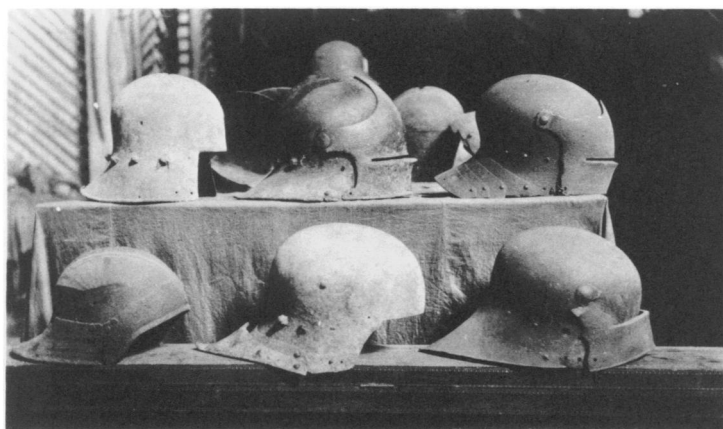
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Figure 16

This photograph shows six more sallets, all but one of which (d) are clearly of German origin and datable to about 1460–90. Three of the sallets (b,c,f) retain their visors, and two others (a,e) have holes for the missing visor pivots. One (a) of the six helmets is still in the Military Museum,³³ and another (b) was acquired by Dean and is now in the Kienbusch Collection in Philadelphia (discussed below and illustrated in Figure 21). It should be noted that each of the visored sallets is, or once was, fitted with a spring-catch on the right side of the skull by which to lock the visor closed. (The visored sallets in Figure 15 [b,c] also have this feature.) The third sallet from the left on the top row (c) is the latest of these, from about

1490–1500, as seen from its rather tall, rounded skull, narrow visor, and articulated tail.³⁴ The remaining helmet (d), a small visorless sallet with brow and neck lames, is of the Italian type already discussed under Figure 14. However, its fluted, fan-shaped decoration on the side of the skull, the cusped upper edge of the brow reinforce, and the horizontal ribs across the neck plate and along the comb suggest a date later than the others, about 1500–10. Fluted surfaces reminiscent of this example are found on several sallets in the Musée de l'Armée, Paris, and in the Wallace Collection, London, all of which have etched and gilt decoration in the style of the early sixteenth century.³⁵ The example in Istanbul may also have similar decoration, though it is not visible in Dean's photograph.

Figure 17

Eight German helmets of visored-sallet and close-helmet types, dating from about 1490 to 1520, are illustrated in this photograph. The sallet fourth from the left on the upper row (d), the earliest of the group, about 1490–95, is now in the Metropolitan Museum and will be discussed below. The group includes five examples (b,c,f,g,h) of a peculiar form of German sallet, about 1500–10, each with a high, rounded skull, articulated tail, and a large, one-piece pivoted visor. It will be noted that each visor is distinctively different. Two of these helmets (b,g) are now in the Metropolitan Museum and are discussed below. The two remaining helmets (a,e) are close helmets, a type in which the front of the skull is closed by a visor (covering the face) and a bevor (covering the chin and neck), both of which pivot on the same rivets at the sides of the skull. Both close helmets are now missing their bevors. The earlier of the two (e) has a smooth, almost globular skull similar to that of the adjacent sallets and is also related to them in having had an articulated tail, now lost. The bellows-shaped visor is a more modern feature, one that apparently developed from the sallet visors (as on helmets b and f). This helmet (e) is datable to about 1510. The second close helmet (a) is more characteristic of the "Maximilian" style of German armor worn about 1505–30, the distinguishing trait of which is its fluted surfaces. (A complete armor decorated in this manner is illustrated in Figure 39.) This close helmet is considerably more developed than the first, having

a roped comb and groups of flutes on the rear half of the skull, with the lower edge of the skull boxed out so as to rotate on the gorget. The bellows visor is also more developed than that on the earlier example and is more characteristic of Maximilian helmets dating from about 1520.

Figure 18

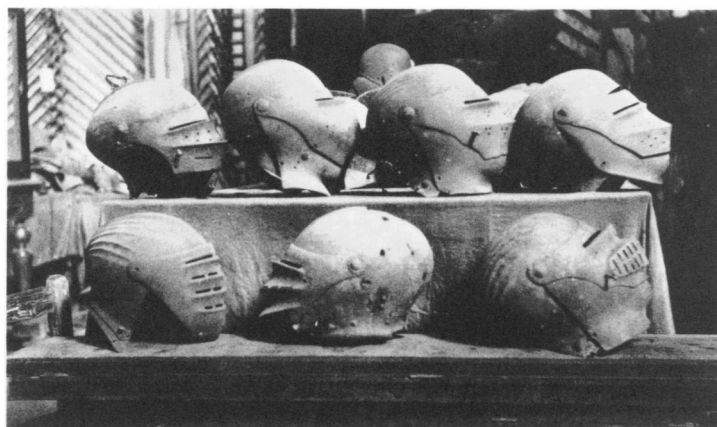
This group shows a variety of German helmets dating from 1510–25. Two (a,f) are armets, a type of visored helmet in which the hinged cheek plates close at the front of the chin. The others are of close helmet type. Both exhibit a variety of visor shapes: the pointed “sparrow’s beak” (a,c,d); the boxed, so-called monkey-face form (g); two variations on the bellows visor (e,f); and a rounded visor (b).³⁶ This last, a Western European type, is rarely found on German helmets, although it was used on several occasions by the Helmschmid family of armorers at Augsburg in the 1520s and 1530s.³⁷

Figure 19

Eight helmets of different types, all of them German and dating from the first half of the sixteenth century, are illustrated here. These include one with a rounded visor and articulated tail (f); three fluted close helmets of “Maximilian” type with boxed visors (a,e,h); a helmet of armet construction with a bellows visor (g); a close helmet (b) of about 1530, with a roped comb and a large, sharply pointed one-piece visor embossed with a curved lower edge beneath the breaths; a fragmentary open helmet of burgonet type (c), with peak and hinged cheek plates; and a burgonet (d) with three raised and roped combs on the skull and large hinged cheekpieces. This last is probably the latest in date of the eight helmets, about 1550.

Figure 20

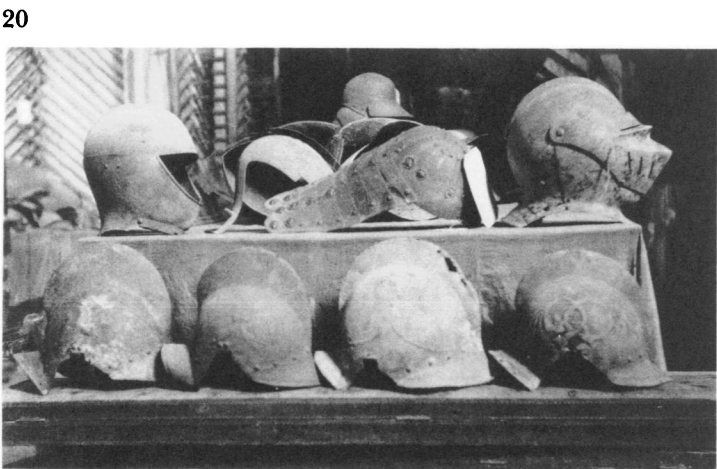
The last of Dean’s photographs shows seven helmets of diverse types, origins, and dates. On the upper tier is an Italian armet (a), now lacking its visor, that dates to about 1470–80; a fragmentary Polish or Hungarian open helmet of *Zischägge* type (b), about 1650, with ribbed skull fitted with decorative star-shaped rivets and a long tail of seven lames; and a



18



19



20

German close helmet (c) with an articulated tail dating from about 1530. On the bottom row are four burgonets of similar form, of which at least two (e,g) are decorated with crossed palm branches embossed on the sides of the skull; all four lack their cheekpieces. These helmets, which are of Italian form and probably date from the mid-sixteenth century, were presumably part of the equipment of a nobleman's bodyguard. Two other examples apparently from the same series are found in the Museo Poldi Pezzoli, Milan,³⁸ and in the Museo Stibbert, Florence.³⁹ It is interesting that the examples in Milan and Florence also lack their cheekpieces—a circumstance that leads one to wonder if they might originally have come to Italy from Istanbul in 1839–40.

BASHFORD DEAN'S FIVE HELMETS

The photographs taken by Bashford Dean in Istanbul in 1920 constitute the only evidence by which the Turkish provenance for the five helmets he acquired from the Military Museum can be established, as none of them is stamped with the so-called arsenal mark. Moreover, the photographs document the original condition of the helmets prior to their restoration in New York.

The earliest of the helmets is the visored sallet, of about 1460, that now forms part of a composite "Gothic" armor in the Kienbusch Collection in the Philadelphia Museum of Art (Figure 21).⁴⁰ The skull has a rounded profile and is drawn out at the back into a short, pointed tail; a low keel-shaped comb across the top is pierced at the apex with a circular hole for a crest. The nine fluted rivet heads encircling the skull originally secured a canvas strap on the inside to which the padded lining was sewn. (As is usual on most helmets of this date, the lining is no longer preserved.) The two rivets at the tail presumably secured a loop through which a strap was threaded; this strap, which also passed through loops riveted at each side of the skull and tied beneath the chin, thus held the helmet firmly on the wearer's head. The large one-piece visor covering the face-opening is pierced with a horizontal sight. The visor rotates at the sides of the skull and is fastened closed on the right side by a spring catch. The lower edge of the skull and visor are rolled outward for reinforcement.

Visored sallets of this general shape were the typical head covering in Germany and Western Europe (France, the Netherlands, and England) during the second half of the fifteenth century, although similar helmets in the German fashion (*alla tedesca*) were also



21.
Sallet, probably German,
ca. 1460. Philadelphia Mu-
seum of Art, Bequest of
Carl Otto von Kienbusch,
acc. no. 1977-167-1 (photo:
Philadelphia Museum of
Art)



22. Sallet, German (Augsburg), ca. 1495. Probably made for Emperor Maximilian I (1459–1519) by his court armorer Lorenz Helmschmid of Augsburg. The Metropolitan Museum of Art, Bashford Dean Memorial Collection, Gift of Edward S. Harkness, 1929, 29.156.45

made by Italian armorers for export to the northern markets. Indeed, the compact form and the emphasis on the vertical rather than horizontal profile bespeak a strong Italian influence; comparable sallets bearing Milanese or Brescian marks are (or were formerly) found in the ancestral armory at Churburg Castle,⁴¹ in the north Italian Tirol. On the other hand, the presence of a spring catch securing the visor to the skull (a feature found on northern European sallets but rarely on Italian examples) and the absence of an armorer's mark (Italian armorers stamped their products with their personal or shop marks more consistently than did their northern counterparts) suggest that this sallet was probably made in Germany under Italian influence.⁴²

Dean's photograph of the sallet (Figure 16b) serves as a useful record of the badly rusted condition in



23. The front of the sallet shown in Figure 22

which he found it. Subsequent restoration involved the reinforcement of the breaks in the lower right edge of the skull and visor and the replacement of missing lining rivets. The original visor pivots, with their large flat heads, were replaced by modern ones of rosette shape. The spring catch on the right side of the skull is old, but the push button is a restoration. The extensive surface corrosion, visible on all the helmets in Istanbul, has been removed, though the polishing was not so extensive as to eliminate all traces of patination. Several welded repairs to close rust holes are also visible inside the skull and visor.

The second of Dean's helmets, which appears in Figure 17d, is now in the Metropolitan Museum (Figures 22, 23).⁴³ At first glance, it appears to be a typical German sallet with a pivoting half-visor. It is unusual, however, in that the beaver (the plates protecting the lower face and neck regions), which in a sallet was usually a separate element of armor strapped around the wearer's neck or fixed at the top of his breastplate, is directly attached to the sallet and

rotates on the same pivots as the visor. Both the visor and bevor are locked in a closed position by separate spring catches on the right side. This construction foreshadows the appearance of the close helmet in the early sixteenth century. The right side of the visor retains about six inches of the applied border of gilt brass decoratively pierced in a crocketed (*fleurdelisé*) design; holes along the tail of the sallet indicate that this border originally extended completely around the edges of the skull as well. The lower lames of the bevor are missing.

The Metropolitan Museum's sallet has been described and discussed in detail in an article by A. V. B. Norman, who noted that its construction is exactly like that of two sallets in the Waffensammlung, Vienna, both of which were made for Maximilian I (1459–1519, King of the Romans from 1486, emperor from 1508) by Lorenz Helmschmid in about 1495.⁴⁴ Whereas neither of the Vienna helmets has an applied brass border, similar borders are found on several armors in the same collection—armors that were made by Helmschmid for Maximilian and for his uncle Archduke Sigmund (1427–96) during the last two decades of the fifteenth century. The features of construction and decoration of the Mu-

seum's sallet leave little doubt that the helmet comes from the same Augsburg workshop and was quite likely made for Maximilian himself. The intriguing question of how the future emperor's helmet might have come into Turkish possession will be addressed below.

Two other helmets now in the Metropolitan Museum can also be identified among the Istanbul photographs (Figure 17b,g). Both are German sallets with tall, rounded skulls shaped to the head, articulated tails, and large, one-piece visors pierced with horizontal sights and turned under at the chin. Datable to about 1500–10, they represent the latest form of the sallet before it was superseded by the close helmet. One of these (Figures 24, 25)⁴⁵ has a wide, slightly rounded comb worked in a series of raised ribs that are arranged in a chevron pattern pointing to the front; the comb is pierced at the center by a small circular hole for a crest. Spreading across the rear half of the skull are eight raised ribs with engraved outlines, four on either side of the comb. The skull is sharply boxed at the back, as is seen in a profile view, and its bottom edge is reinforced with an outward turn. The skull was originally encircled by a series of twelve iron lining rivets, the five at the front (beneath the visor) set flush with the exterior surface, the seven at the back with domed brass caps. Of the

24. Sallet, German, ca. 1500–10. The Metropolitan Museum of Art, Bashford Dean Memorial Collection, Bequest of Bashford Dean, 1929, 29.150.4a

25. The front of the sallet shown in Figure 24





26. Sallet, German, ca. 1500–10. The Metropolitan Museum of Art, Bashford Dean Memorial Collection, Funds from various donors, 1929, 29.158.27

later helmet, one brass-capped rivet is now missing at the back, and only four or five of the remaining six are original. The articulated tail, comprising four lames overlapping downward, is original. The bottom lame has an outward-turned edge and is pierced by two holes through which the bottom of the lining was tied.

The large visor is of an unusual form that gives it an almost menacing appearance. It is pierced by two side-by-side horizontal sights, and below these it is boxed outward into two bulbous horizontal sections, which are pierced by a series of horizontal and vertical ventilation holes; the horizontal piercings are framed by engraved lines. At the base of the visor, a crescent-shaped plate is riveted on the inside to narrow the gap between the neck and the lower edge of the visor. A series of V-shaped notches cut into the right edge of the visor indicates that the helmet was originally equipped with a small pivoted fork by which to prop the visor open. This fork, which would have rotated on one of the lining rivets, is now missing. The visor is secured to the skull by a spring-operated catch on the right side.

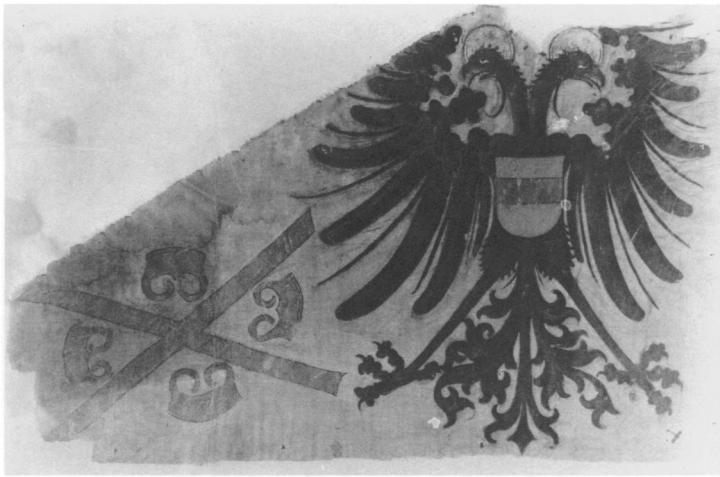
The sallet is genuine in all its basic parts, including



27. The front of the sallet shown in Figure 26

the spring catch, as can be verified from Dean's photograph. An examination of the piece shows evidence of old repairs—perhaps made during its working life—on the lower right side of the skull, to which a new piece of metal has been added, and at the left bottom edge as well. Under Dean's direction, further repairs were made in New York: a number of patches were added to close the rust holes in the skull; patches were also added to reinforce breaks in the tail lames; and the missing rivets were replaced.

The second of the sallets (Figures 26, 27)⁴⁶ has a rounded skull without a comb and is decorated on the rear half with a spray of seven raised and pointed ribs with engraved outlines. Fourteen lining rivets encircle the skull; all but the two under the visor were originally brass-capped. Judging from Dean's photograph and from the one brass rivet-cap that remains on the left side of the skull, the caps around the back of the skull were originally quite prominent and decorative. Four circular holes are pierced at the sides of the skull, presumably to facilitate hearing, and two more holes are pierced at the center of the back, perhaps for laces by which to secure the lining. This helmet is less well preserved than the previous one: the lower edge of the skull on either side is repaired with new metal; the tail lames, missing in the



28. Banner of Emperor Maximilian I, showing the imperial eagle emblazoned with the arms of Austria, and the cross of St. Andrew and the fire steels of the Order of the Golden Fleece. Austrian, ca. 1515. Vienna, Waffensammlung des Kunsthistorischen Museums, inv. no. A 146 (photo: Kunsthistorisches Museum)

29. Imperial troops bearing the cross of St. Andrew. Detail from a woodcut illustration to *Der Weiss König*, completed about 1516 (first printed edition Vienna, 1775). Thomas J. Watson Library, The Metropolitan Museum of Art



photograph of 1920, have since been restored; and the visor pivots have been replaced.

Unlike the previous example, this helmet is fitted with a half-visor, so that the wearer peers between the lower edge of the brow and upper edge of the visor. The form of the visor is unusual in that it is boxed outward below the sight, with a sharp vertical keel down the center. The “shelf” that is formed under the sight is pierced by three holes (two over one), and each side of the visor has twelve ventilation holes arranged in an X-shape, or saltire; the bottom hole on each of the outer arms of the X is filled with a brass-capped iron rivet, one of a row of seven rivets near the bottom edge of the visor. Below this row are seventeen close-set holes. Presumably these rivets and holes secured some sort of chin pad.⁴⁷ The visor rotates at the side of the skull and is closed on the right side by the original spring catch.

Apart from its unusual form, this helmet is of special interest because the saltire arrangement of the visor’s ventilation holes can be interpreted as a cross of St. Andrew, a Burgundian emblem and part of the insignia of the Order of the Golden Fleece.⁴⁸ This Order was founded by Philip the Good, Duke of Burgundy, in 1430, with St. Andrew as its patron. The Burgundian territories included the Low Countries, and with the marriage in 1477 of Archduke Maximilian of Austria (later Emperor Maximilian I) to Mary, daughter of Duke Charles the Bold of Burgundy and heiress to the Burgundian lands, the Netherlandish provinces became an imperial fief. The Burgundian traditions, ceremonies, and accoutrements (including the Order of the Golden Fleece) were likewise appropriated by the Holy Roman Emperors. The various elements of the insignia of the Order—St. Andrew’s cross, the fire steels and briquets striking sparks, not to mention the Fleece itself—were widely used as imperial emblems or cognizances (Figure 28). The most common of these was the saltire-shaped cross, which is frequently found in the woodcut illustrations of *Der Weisskönig* (*The White King*, an allegorical “autobiography” of Emperor Maximilian I) to distinguish imperial troops from their enemies in the field (Figure 29).

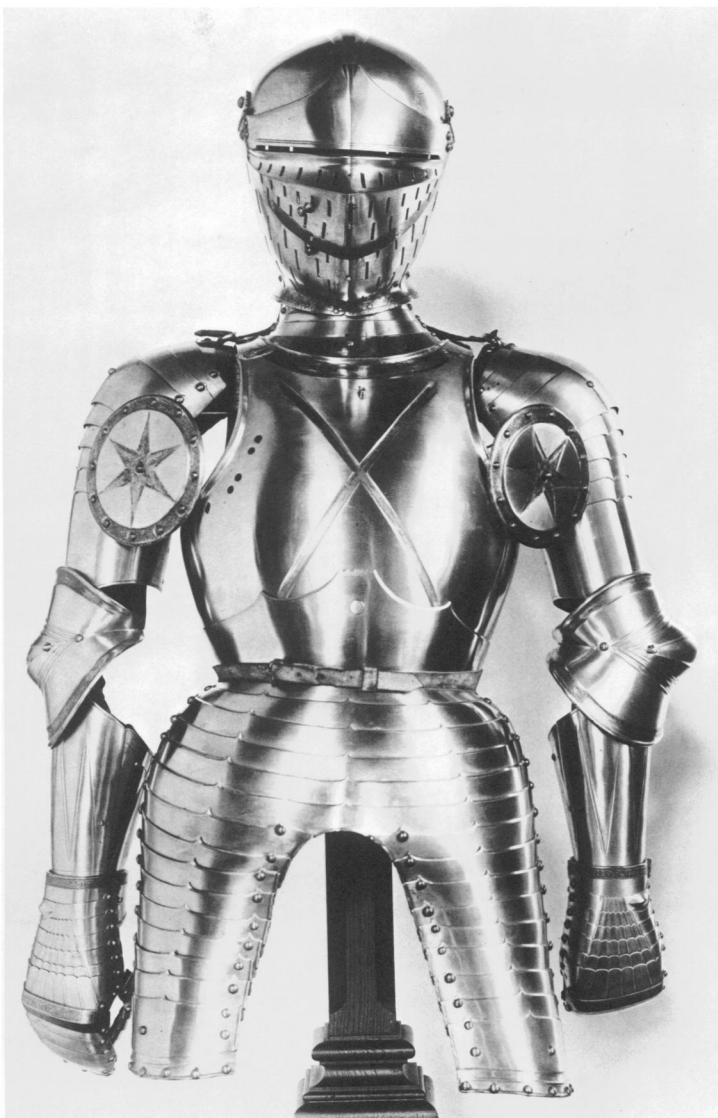
A number of armors dating from between 1490 and 1510 display Burgundian crosses in their decoration. Arranged in chronological order, they include: the armor of Philip the Handsome (1478–1506), King of Castile, made by Lorenz Helmschmid

of Augsburg in about 1495–1500, in the Waffensammlung, Vienna (Figure 30);⁴⁹ a *Rennzeug* of Maximilian I attributed to Innsbruck manufacture, about 1500, also in Vienna (Figure 31);⁵⁰ a chanfron belonging to a horse armor made for Philip the Handsome, a Flemish work of about 1505, in the Real Armería, Madrid;⁵¹ the armor of Wolfgang von Polheim (1458–1512), made in Innsbruck about 1510, in Vienna;⁵² a breastplate of German or Austrian manufacture, about 1510, in the Royal Armouries, H. M. Tower of London;⁵³ an Italian breastplate of about

1500–10 in the Odescalchi collection, Rome;⁵⁴ and another, of about 1515, in the Royal Armouries;⁵⁵ the armor for the young Archduke Charles (later Emperor Charles V), made by the Innsbruck armorer Konrad Seusenhofer in about 1512–14, in Vienna;⁵⁶ and the famous “Burgundian bard” in the Royal Armouries,⁵⁷ a horse armor bearing the arms of Burgundy that is presumed to have formed a gift from Emperor Maximilian to Henry VIII of England, and which is probably of Flemish manufacture, about 1515–20.

30. Armor of Philip the Handsome of Castile, by Lorenz Helmschmid, German (Augsburg), ca. 1495. Vienna, Waffensammlung des Kunsthistorischen Museums, inv. no. A 7 (photo: Kunsthistorisches Museum)

31. *Rennzeug* of Emperor Maximilian I, Innsbruck, ca. 1500. Vienna, Waffensammlung des Kunsthistorischen Museums, inv. no. S. VII (photo: Kunsthistorisches Museum)





32. Sallet (*Rennhut*), here identified as having belonged to Louis II, King of Hungary and Bohemia and attributed to Kolman Helmschmid, German (Augsburg), ca. 1522–26. The Metropolitan Museum of Art, Bashford Dean Memorial Collection, Gift of Mr. and Mrs. Alexander McMillan Welch, 1929, 29.156.45

On the majority of these armors the cross of St. Andrew occurs as part of the full insignia of the Order of the Golden Fleece. This is perfectly logical, as the identifiable owners of the principal harnesses were members of the Order (as sovereigns of the House of Hapsburg, Philip the Handsome, Maximilian I, and Charles V were also successive Grand Masters of the Order). It should be noted, however, that on the armor of Philip the Handsome (Figure 30), on Maximilian's *Rennzeug* (Figure 31), on the Polheim armor, and on the Italian breastplates in the Royal Armouries and in the Odescalchi collection, the cross appears as a simple saltire on the breastplate. In the light of these examples, there can be little doubt that the prominent saltires found on the visor of the Museum's helmet from Istanbul were intended to identify its owner as a knight in imperial service, if not a member of the Order of the Golden Fleece.

The last and chronologically latest of Dean's five



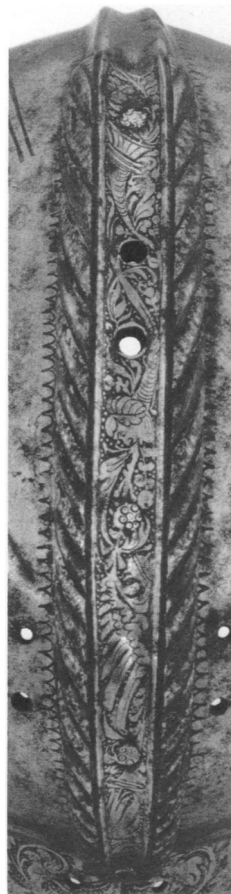
33. The front of the sallet shown in Figure 32

helmets is by far the most intriguing. It is a *Rennhut* (Figures 32–35), a special form of sallet for use in the German joust known as the *Rennen*, which was fought between two mounted combatants armed with sharp lances. The *Rennen* and the *Gesteck* (the joust with blunted lances) were the two principal forms of joust practiced in German-speaking Central Europe in the second half of the fifteenth century, and each required armor of a special type. The complete armor for the *Rennen* (the *Rennzeug*) consisted of a sallet; a bevor covering the lower face and neck which was bolted in a fixed position to the breastplate; a breastplate with long tassets, the breast's right side being flattened to take a lance rest with a backward-projecting arm (queue) that gave additional support to the lance; and an X-shaped backplate used merely to give support to the breast. Armor for the shoulders, arms, and hands was unnecessary, as the entire left side was covered by a large capelike shield (the *Renntartsche*) bolted to the breastplate, and the right arm by the large protective plate (vamplate) that fitted around the shank of the lance directly in front of the hand. Leg armor was similarly unnecessary, as the thighs and lances were protected by fitted plates known as tilting sockets (in German, *Dilgen*), which were suspended from the saddle. The complete panoply is illustrated in Figures 31, 36, and 41.

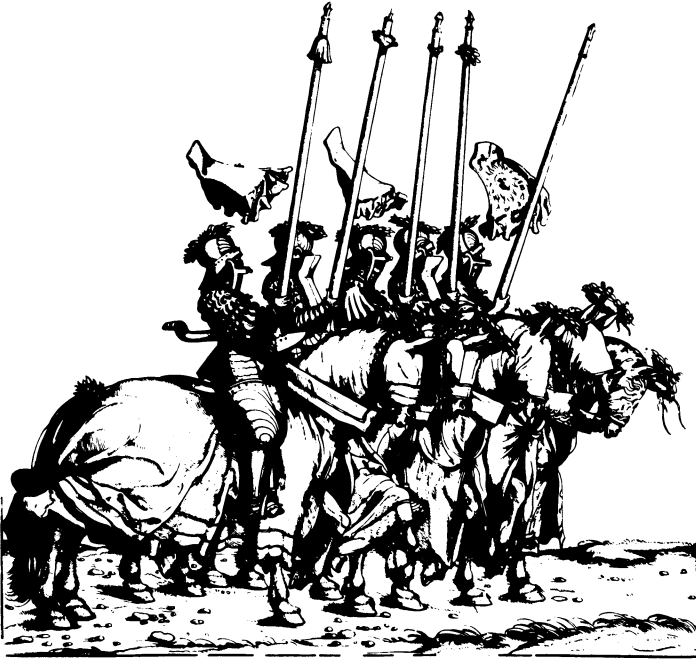
The *Rennhut* in the Metropolitan Museum is a development from this Late Gothic type of sporting helmet, but its construction and decoration indicate a sixteenth-century date. Unlike the late-fifteenth-century *Rennhut*, invariably made in one piece with a long, pointed tail, the Museum's example is constructed of two plates: a domed skull pierced by a horizontal sight, and a separate riveted-on tail. The skull has a double-ridged comb, concave down the center, framed by a border of etched zigzag lines. The comb is overlaid with a gutter-shaped reinforcing plate, concave at the front end and pointed at the back, which covers all but the front five inches of the comb. It is etched down the center with foliate scrolls, a cornucopia, a wing, and a bonneted female head on a dotted black ground; at the center two threaded holes have been drilled to accommodate a crest. The sides of this reinforcing plate are worked

as a roped band, the twists etched with crescents and gilt. At the top of the skull, on either side of the comb, is a semicircular recessed field. The rear half of the skull is vertically fluted in the so-called Maximilian style, with the concave areas divided by raised ribs with engraved outlines. The front half of the skull is smooth, though it appears to be fluted because the raised ribs have been simulated by etched lines. A smooth surface in the forehead region was required because it was originally covered by a pair of arched reinforcing plates that served as a target to be struck off with a well-aimed lance blow. These plates were held in place by studs on either side of the sight (still present) and by a forked spring riveted at the front of the crest (now missing). Plates of this type, and the fixtures securing them, are shown mounted on the sallets illustrated in Figures 31, 36, and 37.

34. The back of the sallet shown in Figure 32



35.
Detail of the etched decoration
on the comb of the sallet
shown in Figure 32



36. Hans Burgkmair (1473–1531), “Bundrennen,” a woodcut from *The Triumph of Maximilian I.* The Metropolitan Museum of Art, Harris Brisbane Dick Fund, 1932, 32.37

Around the sides of the skull are a series of twelve round-topped arches, the four at the front flat (to accommodate the reinforcing plates), the remaining ones in low relief. The arched areas are etched with foliage on a dotted black ground; a monogram formed by the conjoined letters L and M alternates with motifs of harpies or trophies of arms. Below the arches runs a horizontal band of foliage on a dotted ground that was once completely gilt. A band of ornament in imitation of roping, gilt on a dotted ground, is etched around the edge at the front.

The tail plate has a strong median ridge and its end is cut almost straight across. Etched along its top edge is a band of scrolling foliage with cornucopias on a dotted black ground; a zigzag border follows the lower edge of the band. Extending down the center of the tail is a branch of acanthus foliage. Riveted along the right side of the tail is part of an applied border of gilt iron in the form of a continuous series of balusters, with a six-petaled rosette at the front end that covers the join of the skull and tail plates. This applied band originally extended around the edges and, to judge from the numerous rivet holes



37. Sallet for the *Bundrennen*, by Matthes Deutsch, German (Landshut), about 1495. Paris, Musée de l'Armée, inv. no. G. 1 (photo: Musée de l'Armée)

that remain in that area, apparently continued half-way up the center of the tail. The series of holes on the rear half of the skull, and larger ones at the sides of the tail plate (just below the rivets that hold the tail to the skull) were intended for laces that secured the heavily padded lining (now lost).

Two closed holes at the front of the sallet, below the sight, suggest that it was probably once fitted with a fixture for a roller. (A small plate riveted inside the front of the sallet presumably gave support to this fixture.) Sallets with rollers seem to have been intended for use in a rare form of joust known as *Bundrennen*. In this sport, a large shield of leather-covered wood, the *Renntartsche*, was affixed to an ingeniously designed “mechanical” breastplate fitted with springs and rollers; when the shield was properly hit, it would be ejected from the breastplate and fly up and over the jouster’s head. The roller attached at the front of the sallet presumably facilitated an easier discharge of the *Renntartsche*.⁵⁸ One of Hans Burgkmair the Elder’s woodcut illustrations from *The Triumph of Maximilian* shows the equipment worn in such a joust (Figure 36). Only two sallets fit-

ted with rollers (one of which is shown in Figure 37) and three mechanical breastplates are known; this suggests that the *Bundrennen* was an extremely rare tournament game, probably one that took place only in the imperial court.⁵⁹

Since Bashford Dean's acquisition of this helmet in 1920, it has been catalogued as the work of the Nuremberg armorer Kunz Lochner and dated to about 1545, and the ML—or LM—monogram identified as that of Moritz of Leipzig.⁶⁰ However, renewed stylistic analysis of the helmet's form and decoration now suggests that it was produced by a different armorer working elsewhere in Germany in an earlier period, and a more careful study of the monogram has yielded an entirely new, and more defensible, identification of the sallet's original owner.

Several features of the helmet suggest that it was made about twenty years earlier than the traditional date of 1545. The fluted skull reflects the so-called Maximilian style of armor popular in Germany between about 1505 and 1530; by 1545 fluted decoration had been out of fashion for more than a decade. The presence of an applied decorative border around the tail recalls the same Late Gothic tradition evidenced by the Museum's sallet of about 1495 (Figures 22, 23), and thus suggests a date earlier, rather than later, in the sixteenth century. The border on the *Rennhut* differs, however, from that on the earlier sallet in that it is of gilded iron rather than of brass, and its robust baluster form reflects the influence of the Italian Renaissance without any trace of florid Late Gothic design. No other sixteenth-century *Rennhut* with an applied decorative border of this type is known.

The *Rennhut*'s narrow bands of etched decoration also suggest a date in the 1520s. The ornamental motifs, particularly the repeated harpies, reflect the influence of Daniel Hopfer (ca. 1470–1536), the famous Augsburg printmaker. Hopfer etched not only iron plates for graphic reproductions but also armor. Hopfer's signature is found on only one piece, a tilting targe dated 1536 in the Real Armería, Madrid,⁶¹ but a number of other armors, most of them from the Helmschmid workshop in Augsburg, are etched in the so-called Hopfer style. James Mann characterized the ornamental motifs found on these harnesses: "They all show foliage or candelabrum ornament intermixed with grotesque birds and beasts, putti and harpies, all vigorously drawn and deeply etched on a granular ground on which the grains are

not all similar in size nor too closely placed. These etched compositions have in common certain noteworthy details, such as a wriggling tendril, a certain globe-like ornament, and a characteristic snub-nosed harpy or cherub in profile, and sometimes a tablet with Roman numerals, probably indicating a date."⁶² Many of these motifs appear in the margins of Hopfer's prints, such as in his portrait of Charles V (Figure 38).

The best examples of Hopfer-style etching on armor are found on the harnesses made in the workshop of Kolman Helmschmid (1470/71–1532), Augsburg's leading armorer in the first third of the sixteenth century.⁶³ The son of Lorenz Helmschmid, Emperor Maximilian I's favorite armorer, Kolman produced work that typifies German Renaissance armor design in much the same way that his father's armors capture the spirit of the Late Gothic. Kol-

38. Daniel Hopfer (ca. 1470–1536). Emperor Charles V. Etching, 22.4 × 15.3 cm. The Metropolitan Museum of Art, Gift of Junius S. Morgan, 1919, 19.52.19



39. Armor of Bernard Meuting of Augsburg, attributed to Kolman Helmschmid, German (Augsburg), ca. 1525. Vienna, Waffensammlung des Kunsthistorischen Museums, inv. no. A 235 (photo: Kunsthistorisches Museum)



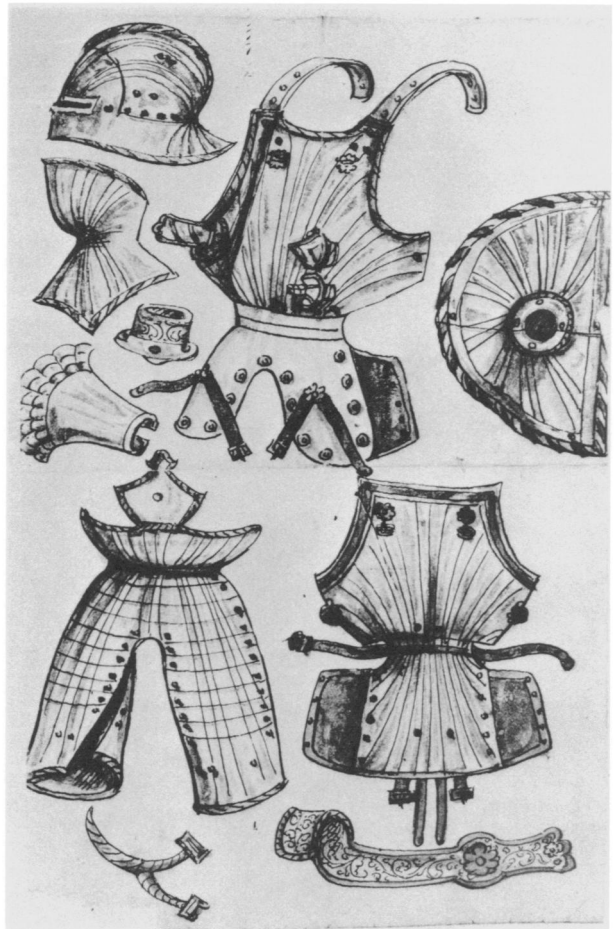
40–41. Helmet and upper half of the breastplate of the armor of Bernard Meuting illustrated in Figure 39



man's patrons and customers were the leading princes of Europe: the Hapsburgs, including Maximilian himself, Charles V (1500–58, emperor from 1519), and Charles's brother Ferdinand I (1503–64, King of Bohemia from 1526, emperor from 1558); members of the imperial court, such as Count Andreas von Sonnenburg (died 1511), Count Eitel Friedrich II von Zollern (died 1512), and Wilhelm von Roggendorf (1481–1541); other German princes, such as Albrecht of Brandenburg (1490–1568); and Italian patrons, notably Gianfrancesco II Gonzaga (1466–1519) and his son Federigo II (1500–40, duke from 1530), rulers of Mantua. A comparison of the decoration found on some of Kolman's armors, such as that of the Augsburg patrician Bernard Meuting (Figures 39–41),⁶⁴ shows the characteristic Hopfer-style etching, which is also found on the Museum's sallet. The ornament includes not only the snub-nosed harpies but also the large-petaled flowers and the cornucopias and wings within the foliate ornament, as well as the zigzag line along the edges of the etched areas. One notices on the Meuting armor, as well as on other armors by Kolman, what may be a distinctive detail of his workshop: the closely set crescents etched on the roped turnovers at the edges. The presence of these crescents on the roped edge of the reinforce on the sallet further suggests that it is the work of Kolman Helmschmid.

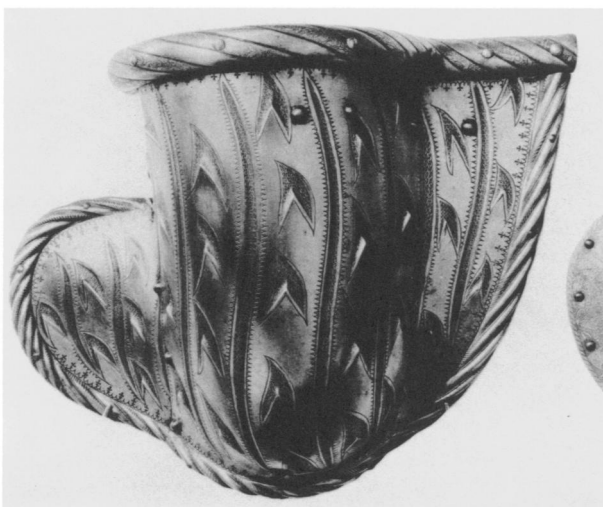
Kolman's surviving oeuvre does not include a *Rennzeug*, though the armorer is recorded as having made several of them. In 1525 he received payment for a *Rennzeug* ordered by Albrecht of Brandenburg, Grand Master of the Teutonic Order and Duke of Prussia.⁶⁵ Visual evidence survives for a second *Rennzeug*, one with fluted decoration, in the so-called Thun Sketchbook (Figure 42), a volume of pen and wash designs for armor believed to have originated in the Helmschmid workshop. This particular drawing has been identified by Ortwin Gamber as representing a *Rennzeug* made by Kolman around 1525 for Ferdinand I.⁶⁶

Whereas Kolman evidently made few *Rennzeuge* and *Stechzeuge* (specialized armors for the *Gesteck*, or joust with blunted lances) of the traditional late-fifteenth-century type, the workshops of his father Lorenz and of his uncle Jörg yielded dozens of these armors for the sporting contests sponsored by Maximilian I.⁶⁷ What must be the latest of Lorenz



42. Pen and watercolor drawing showing elements of a *Rennzeug*. From the Thun Sketchbook, Codex a/8, formerly in the library of the counts Thun-Hohenstein at Tetschen, Bohemia (missing since 1945)

Helmschmid's *Rennzeuge*, of which only the sallet and the right tilting socket are preserved, was formerly in the Musée de l'Armée, Paris (Figures 43, 44).⁶⁸ The surfaces are decorated alternately with S-shaped and chevron-shaped recesses, etched and gilt with a chain motif, in imitation of the puffed and slashed mi-parti civilian costume of the first third of the sixteenth century. So-called costume armors enjoyed a limited vogue between 1510 and 1530, and this seems to be a unique example of a *Rennzeug* decorated in this fashion. Lorenz's mark (a tilting helm surmounted by a cross), long overlooked,⁶⁹ is stamped on the socket's upper border. This armor must have been made at the very end of his life (born in 1445, Lorenz died in



43–44. Sallet (*Rennhut*) and tilting socket (*Dilge*) for the *Rennen*, by Lorenz Helmschmid, German (Augsburg), ca. 1515–16. Formerly in Paris, Musée de l'Armée, inv. nos. H. 51 and G. 536 (photos: Musée de l'Armée)

1516), perhaps about 1515–16, when the work of the two Helmschmids, father and son, became very similar.⁷⁰ In fact, were it not for the presence of the father's mark on the socket, these two pieces could quite reasonably be attributed to Kolman. A comparison of the sallet formerly in Paris and that in the Metropolitan Museum shows the general similarity of shape (especially the bulbous skull), construction (note the method of joining the tail plate to the skull), and decoration (the sculptural band applied to the tail, the zigzag borders around the etched areas,

and the crescents etched on every other band on the roped borders). The two works were evidently made in the same family workshop and not very distant in time from one another.

To summarize, the Museum's sallet can be attributed with reasonable certainty to the workshop of Kolman Helmschmid of Augsburg, about 1520–25, an attribution based on the comparison of the helmet's form, construction, and decoration with other harnesses by that armorer. In addition, a new identification of the helmet's original owner further confirms its date and illuminates its history.

After acquiring this helmet in 1920, Bashford Dean identified the etched monogram as that of Moritz of Leipzig, that is, Elector Moritz of Saxony (1521–53, Prince-Elector from 1541). This attribution was apparently inspired by the row of arches encircling the skull, which reminded Dean of the upturned ermine edges of an elector's bonnet (*Kurfürstenhut*);⁷¹ with this in mind, Dean apparently sought out a likely candidate whose initials corresponded to those in the monogram. Although arched fields of this kind do not occur on any other helmet, the motif does not seem to be an intentional allusion to the electoral bonnet. Furthermore, a monogram of this kind, consisting of two conjoined letters, usually refers to a husband and wife (Moritz married Agnes, daughter of Landgrave Philipp of Hesse, in 1541) rather than to a ruler's titles. In any case, there is no contemporary evidence that this Elector of Saxony was closely associated with the city of Leipzig; on the contrary, he was strongly identified with the city of Meissen and was at one time referred to as Moritz von Meissen.⁷² It may be pointed out that the electoral insignia (the crossed swords, symbols of the elector's position as Archmarshal of the Empire) and the arms of Saxony are also conspicuously absent. The total lack of evidence for a connection with Elector Moritz of Saxony, and the revised dating of the helmet to 1520–25—a date much too early for Moritz—proves that Dean's interpretation of the monogram was wide of the mark.

The solution to the identification of the monogram on the Museum's helmet is found on a silver thaler issued in 1525 by Louis II (1506–26), King of Hungary and Bohemia (Figures 45, 46).⁷³ The king is shown on horseback on the obverse, with both man and steed in full armor; on the reverse are the arms of Hungary and Bohemia beneath a royal crown, the monogram comprising the letters L and M, and



45. Silver coin (thaler), Austrian (Kremnitz), 1525; obverse with the equestrian portrait of Louis II, King of Hungary and Bohemia. Vienna, Kunsthistorisches Museum, Sammlung von Medaillen, Münzen und Geldzeichen, inv. no. 197.153 (photo: Kunsthistorisches Museum)



46. Reverse of the thaler in Figure 45, with the crowned arms of Hungary and Bohemia and the monogram of Louis II and his wife, Maria of Austria, surrounded by the arms of Louis's duchies

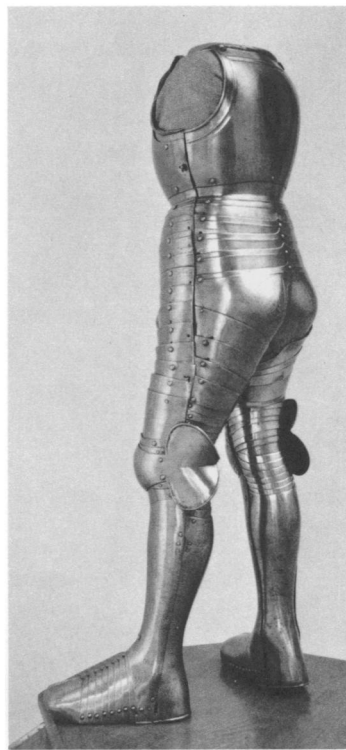
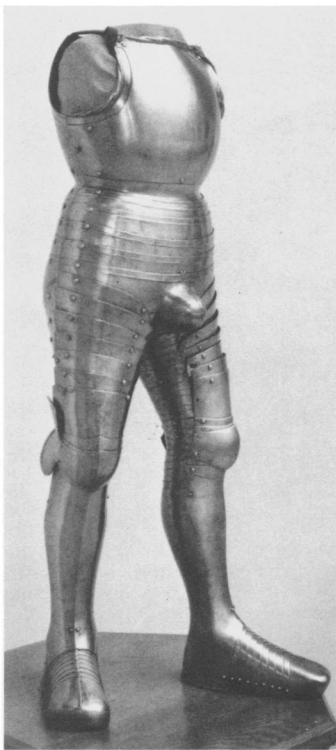
seven crowned shields containing the arms of the duchies in Louis's domain. The monogram is exactly like that on the Museum's helmet and refers to Louis and his wife, Maria of Hapsburg (1505–58), better known as Mary of Hungary, the daughter of Philip the Handsome of Castile, whom Louis married in Vienna on January 13, 1522. There can be little doubt that the sallet is that of Louis II, and that it can be dated to between 1522 and 1526.

History has relatively little to say about this short-lived monarch. He was the firstborn son of Ladislav Jagiello, King of Hungary and Bohemia. In a pact concluded with Maximilian I at Wiener Neustadt in 1506, Ladislav agreed to the future union of the House of Hapsburg with that of his own, promising the hand of his daughter Anna to Maximilian's grandson Archduke Ferdinand of Austria and that of his as yet unborn son, Louis, to Archduchess Maria, Maximilian's granddaughter.⁷⁴ The union took place in Vienna in July 1515, with the formal betrothal of the two couples. Reaching his majority in 1521, Louis married Maria in Vienna early the next year. His reign was brief and undistinguished and is best remembered for its tragic end.

The reign of Louis II coincided with the ascension of Süleyman the Magnificent (1494–1566) to the Ottoman throne (1520) and with it a renewed Turkish threat to Europe.⁷⁵ Taking advantage of the political

rivalries between François I of France and Emperor Charles V, which divided the continent, the sultan launched a series of remarkably successful attacks on the eastern flank of the Empire. The fall of Belgrade, on August 29, 1521, afforded the Turks a foothold on the rich Danube region, and on December 21, 1522, the capture of Rhodes completed Turkish domination of the Aegean. Süleyman invaded Hungary in the spring of 1526 and on August 29 he faced the Hungarian army, led by Louis II, on the battlefield of Mohács. Poorly led, ill-equipped, and greatly outnumbered, the Hungarian troops were completely routed, and Louis II was drowned in his flight from the field. The Jagiello line in Hungary and Bohemia thus came to a premature end, and the accession of Archduke Ferdinand to the two thrones resulted in the establishment of Hapsburg rule in both countries, which was to last until 1918.

Whereas numerous armors can be identified with contemporaries of Louis II—notably those of Charles V and Ferdinand I preserved in the former Hapsburg armories in Madrid and Vienna—only two have previously been associated with the young monarch. One is an incomplete armor for foot combat at the barriers (a specially designed tournament armor in which even the groin and buttocks are encased in plate) in the Waffensammlung, Vienna, which is attributed to the Innsbruck armorer Konrad Seusenhofer, about 1512–14 (Figures 47, 48).⁷⁶ The armor is of very small proportions and seems to have been



47–48. Incomplete foot-combat armor of Louis II of Hungary and Bohemia, attributed to Konrad Seusenhofer, Austrian (Innsbruck), ca. 1514. Vienna, Waffensammlung des Kunsthistorischen Museums, inv. no. E 1 (photos: Kunsthistorisches Museum)

intended for a young boy. It is recorded that, in 1514, Maximilian I ordered a “tonlet” armor (i.e., one with a deep metal skirt) for Louis from his court armorer Konrad Seusenhofer in connection with the upcoming betrothal ceremonies in Vienna. For this reason it is has been conjectured that the foot-combat armor may have been ordered at the same time. The armor appears to correspond to one, said to have been Louis II's, described in an inventory of 1583, though there is no internal (i.e., heraldic or iconographic) evidence to confirm the attribution.

A second piece of armor in the Waffensammlung, a pauldron for the right shoulder of a costume armor (Figure 49), has also long been ascribed to Louis II.⁷⁷ Like the boy's armor discussed above, the pauldron is attributed to Konrad Seusenhofer and dated about 1514. Given the pauldron's large size—it was clearly made for an adult rather than for a boy of nine or ten—this attribution can no longer be maintained.

In the light of the incomplete documentation of the pieces in the Waffensammlung, the Metropoli-

49. Right pauldron, traditionally said to belong to an armor of Louis II, attributed to Konrad Seusenhofer, Austrian (Innsbruck), ca. 1514. Vienna, Waffensammlung des Kunsthistorischen Museums, inv. no. A 179 (photo: Kunsthistorisches Museum)



50. *Louis II, King of Hungary and Bohemia*, ca. 1530. Pen and watercolor drawing from the Thun Sketchbook, Codex a/8, formerly in the library of the counts Thun-Hohenstein at Tetschen, Bohemia (missing since 1945)



tan's sallet is the only piece of armor that can be securely identified as having belonged to Louis II. This may explain the presence of the king's portrait in the Thun Sketchbook (Figure 50), where it is one of four portraits of enthroned rulers (the others are of Philip of Castile, Charles V, and Ferdinand I) bound together with this famous series of armor designs coming from the Helmschmid workshop. These portraits, which Gamber dates to around 1530,⁷⁸ thus seem to have constituted a record of Lorenz and Kolman Helmschmid's most important clients, to whom Louis II can now definitely be added.⁷⁹

One intriguing question remains to be answered: How did the sallet of Emperor Maximilian I, the *Rennhut* of Louis II, and the other helmets photographed by Bashford Dean come to be found in the imperial Ottoman arsenal in Constantinople? The majority were certainly captured by the Turks in the fifteenth and sixteenth centuries during their campaigns in the Mediterranean and Aegean regions, in the Balkans, Poland, Hungary, Bohemia, and Austria—literally up to Vienna's doorstep. Judging from the severe damage evident in certain helmets illustrated in Dean's photographs, some of them may have been picked up as battlefield souvenirs, although the majority were no doubt taken as booty from the castles and arsenals overrun by Ottoman troops. In the case of Maximilian's sallet (Figure 22), Ortwin Gamber has noted that the emperor had a habit of leaving his arms behind in the castles he visited.⁸⁰ Thus one of his helmets is in Churburg Castle in the north Italian Tirol (left after the battle of Mals

nearby), his knives are in the monastery of Kremsmünster, and a *Rennzeug* was forgotten in Mödling, near Vienna. The sallet was very probably taken when one of the Hapsburg properties was overrun on the Turkish march to Vienna in 1529.

Similar circumstances probably account for the presence of Louis II's *Rennhut*. It is unlikely that it came into Turkish possession at Mohács, as helmets of this type would never have been worn in battle, and such expensive sporting equipment is not likely to have been included in the king's baggage train for a serious campaign in the field. More likely, it formed part of the royal Hungarian armory that fell into Turkish hands when Buda, the capital, was occupied by Ottoman troops in the aftermath of the disaster at Mohács. Records indicate that considerable booty, including the library of Matthias Corvinus, was removed from Buda to Constantinople by the victors, and it is likely that finely decorated European arms and armor were also included. The recent discovery in the Military Museum, Istanbul, of several fifteenth-century ceremonial swords from Hungary, including a processional sword bearing what may be the arms of László V (1452–57), tends to confirm this theory.⁸¹

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I would like to express my thanks to a number of colleagues who have assisted me with valuable information and photographs: Helmut Nickel, David Alexander, Donald J. LaRocca, Christian Beaufort-Spontin, Ortwin Gamber, Claude Blair, Ian Eaves, and A. V. B. Norman.

NOTES

1. Information about Dean's European trip of 1919–20 is derived from his notebooks, correspondence, and photographs preserved in the archives of the Department of Arms and Armor in the Metropolitan Museum. Most of this material was previously in the private possession of Stephen V. Grancsay (1897–1980), the Metropolitan's second Curator of Arms and Armor, and came into the Museum's possession with the bequest of Grancsay's library and papers in 1980. Grancsay had been one of the executors of Dean's estate, not to mention his pupil, confidant, and chosen successor, and so it was natural that Dean's private papers and notebooks came into his hands. Surprisingly, however, Grancsay never utilized this material, and its very existence seems to have been forgotten.

For Dean's activities as Museum curator and private collector, see "Biographical Outline," by C. O. von Kienbusch, in C. O. von Kienbusch and S. V. Grancsay, *The Bashford Dean Collection of Arms and Armor in The Metropolitan Museum of Art* (Portland, Me., 1933) especially pp. 24–41; and D. J. LaRocca, "Carl Otto Kretzschmar von Kienbusch and the Collecting of Arms and Armor in America," *Bulletin, Philadelphia Museum of Art* 81 (1985) pp. 6–11, 23 n.27.

2. The earliest account of the Chalcis armor in English is given in C. Ffoulkes, "On Italian Armour from Chalcis in the Ethnological Museum at Athens," *Archaeologia* 62 (1911) pp. 381–390. On the same subject, see L. G. Boccia, "The Xalkis Funds in Athens and New York" (an unpublished, privately cir-

culated typescript of a talk delivered in New York on Oct. 3, 1981, at the Ninth Triennial Congress of the International Association of Museums of Arms and Military History), where the helmets from this group are classified by type; and C. Blair, "Notes on Armour from Chalcis," *Arms and Armour at the Dorchester* (London, 1982) pp. 7–14, where Dean's negotiations for the acquisition of the Chalcis armor are discussed.

Dean did not acquire all of his Chalcis armor at one time. Having first come across the Chalcis armor in 1891 (B. Dean, "Early Gothic Armor," *MMAB* [1925] p. 133), he obtained three pieces (a brigandine plate, a basinet, and an armet) during a visit to Athens in 1913. It was only in 1920, however, that he secured the larger part of the hoard, which was shipped to New York over a two- or three-year period.

Sixty-eight helmets or helmet parts, five brigandine plates, and two lower vambraces (plates for the forearm) remain today in the National Historical Museum, Athens. I am especially indebted to A. V. B. Norman for information on the Chalcis armor in Athens.

3. For the history of the Rhodes armor now in the Royal Armouries, see C. Ffoulkes, "Armour from the Rotunda, Woolwich, Transferred to the Armouries of the Tower, 1927," *Archaeologia* 78 (1928) pp. 66–69, and idem, "The Rotunda Museum, Woolwich, and the Armouries of the Tower of London," *Apollo* 8 (1928) pp. 19–23.

4. The terrible condition of the Rhodes armor is evident in a well-known series of photographs made in Bachereau's shop. Dean visited Bachereau twice during his trip of 1919–20. His notebooks indicate that he received a small group of Rhodes fragments as a gift from the dealer in Dec. 1919 and, returning to Paris in April, purchased the majority of Bachereau's remaining Rhodes pieces for 70,000 francs (about \$7,000). A monographic study of the Rhodes armor is being prepared by W. J. Karcheski, Jr., of the Higgins Armory Museum, Worcester, Mass., together with I. D. D. Eaves and T. Richardson of the Royal Armouries, H. M. Tower of London.

5. Dean was professor of vertebrate zoology at Columbia University and curator of fossil fishes at the American Museum of Natural History before becoming Curator of Arms and Armor at the Metropolitan Museum. For Dean's scientific career, see Kienbusch and Grancsay, *The Bashford Dean Collection*, pp. 8–11.


6. Acc. nos. 29.150.5 (both lower vambraces and possibly the left greave from Chalcis); 29.150.7 (the armet, but not its visor, both vambraces and gauntlets, the right tasset, right cuisse, left poleyn, and right greave from Chalcis; the right pauldron from Rhodes); 29.150.8 (the main plate of right cuisse from Chalcis); 29.150.9 (the left cower probably from Chalcis); 29.150.91 (an incomplete "brigandine" armor, made up from Chalcis elements); 29.154.3 (except for the helmet and minor restored plates, largely from Chalcis); 29.156.66 (the left cower, left tasset, both cuisses, and the right greave from Chalcis); and 50.160 (left and right vambraces and cowers, the right gauntlet, and the left cuisse from Chalcis). The majority of these armors were described in Kienbusch and Grancsay, *The Bashford Dean Collec-*

tion, nos. 1–5, though not all of the Chalcis and Rhodes elements were correctly identified at that time.

7. For the architectural history of St. Irene, see W. S. George, *The Church at Saint Eirene at Constantinople* (London, 1913) and T. F. Mathews, *The Early Churches of Constantinople: Architecture and Liturgy* (University Park, Pa./London, 1971) pp. 77–88. The history of the arsenal and its collections is discussed in O. S. Moukhtar, *Musée Militaire Ottoman situé à Sainte Irène, Place de Top-Kapou-Sérail, Guide* (Constantinople, 1920) pp. 6–48; and L. Kalus, "Collection des armes et armures islamiques du Musée Militaire Istanbul," *Études médiévales et patrimoine turc* (Paris, 1983) pp. 135–144.

8. For the location of the arsenal within the palace precinct, see E. Atil, *The Age of Sultan Süleyman the Magnificent*, exh. cat., National Gallery of Art (Washington, D.C., 1987) pp. 113, 147.

9. Atil, *The Age of Sultan Süleyman*, pp. 113–114, 147. As evidence of such gifts, see for example the sale catalogue of the collection of arms and armor of the duc d'Istrie, Paris, Jan. 23–25, 1839, which included a Turkish armor (no. 1) said to have been given to the duc d'Istrie by Count Guilleminot, the former French ambassador at Constantinople. The ambassador apparently had received it as a gift, with the understanding that the armor had originally belonged to one of the first sultans.

10. The so-called arsenal mark, , is thought to derive from the tribal mark, or tamga, of the Kayi, one of the twenty-four original Oghuz (tribes) of the Turks, from which the Ottomans claimed descent. See H. Nickel, "Ceremonial Arrowheads from Bohemia," *MMJ* 1 (1968) p. 63 n.3; and idem, "Tamgas and Runes, Magic Numbers and Magic Symbols," *MMJ* 7 (1973) p. 168. Earlier theories of the meaning of this mark are discussed by E. von Lenz, "Arsenalzeichen oder Beschau," *Zeitschrift für Historische Waffenkunde* 6 (1912) pp. 299–303. Lenz also suggested that the arsenal mark was not limited to use in Istanbul, but was also probably used in the Ottoman arsenals at Edirne and Erzerum, and that it may have served as a proof mark denoting the serviceability of captured weapons.

The statement of Atil, *The Age of Sultan Süleyman*, p. 147, that all Ottoman arms and armor in the arsenal in Istanbul were stamped with the arsenal mark is not completely accurate. It would seem that the mark is found on the majority of Islamic armor, but on relatively few weapons. The European armor seems to have been stamped less frequently. None of the five European helmets discussed in this article bears this mark.

11. Apart from the numerous pieces of Turkish armor in the Metropolitan's collection that bear the arsenal mark, it is also found on four pieces of European armor: a mail shirt of 15th- or 16th-century date (14.25.1564); the bottom plate of a cuilet, German, ca. 1480 (29.150.71); a gauntlet for the left hand, Italian, second half of the 15th century (29.156.69d); and a German gauntlet for the left hand, ca. 1490 (29.158.256). The mark is also found on a German sword of the early 16th century (1988.26).

12. Quoted by John Hewitt, *Official Catalogue of the Tower Ar-*

mouries (London, 1859) pp. 116–117, note. C. A. de Cosson's preface to the sale catalogue of the Zouche collection, sold by Sotheby, Wilkinson and Hodge in London on Nov. 10–11, 1920, pp. i–iii, refers to a manuscript catalogue of armor at Parham, unfortunately no longer traceable, in which a similar story was related by Lord Zouche. According to de Cosson, Samuel Pratt, the well-known dealer of arms and armor in London, had also told a similar story.

At variance with Curzon's account is the report of Gros Malo, "Vieilles armures et vieux manuscrits," *Intermédiaire des chercheurs et curieux* 46, no. 974 (July 20, 1902), col. 64, who gives the date of the arsenal's dispersal as 1823, following an oral tradition in circulation in Istanbul in 1859. Moukhtar, *Musée Militaire Ottoman*, p. 29, likewise dates the dispersal to the reign of Sultan Mahmud II (1808–39). In light of the fact that Curzon was in Constantinople within a year or two after the event, his account still seems to me the most reliable.

13. Moukhtar, *Musée Militaire Ottoman*, pp. 30–32.

14. De Cosson, Zouche sale catalogue, p. ii: "Photographs which I have show that, twenty years ago [i.e., about 1900], the arsenal of St. Irene contained many European swords of the fifteenth century, some Saracenic helmets and weapons, but no European armour." The swords to which de Cosson refers, visible in Figure 3, belong to the famous group whose blades bear Arabic inscriptions. These inscriptions, which were presumably added soon after the swords were captured or received as gifts, frequently include dates that afford an important chronology for specialists studying the development of the late-medieval sword hilt. For this group of weapons, see especially D. G. Alexander, "European Swords in the Collection of Istanbul, Part I," *Waffen- und Kostümkunde* 27 (1985) pp. 81–118, and "Part II," *ibid.* 29 (1987) pp. 21–48.

15. The former church of St. Irene continued to house the Military Museum until the outbreak of World War II, when its contents were evacuated to Central Anatolia. The collections returned to Istanbul after the war, but not to St. Irene. The Military Museum was eventually reestablished in the Military Gymnasium in the Harbiye district of the city and opened to the public in 1959.

I am grateful to my colleague D. G. Alexander for photographs and the inventory numbers of the European helmets that remain in the Military Museum and for the information that the fate of the bulk of the collection of European armor fragments photographed by Dean in 1920 appears not to be known.

16. Conspicuously absent from the helmets in Istanbul are the "great sallets" formed of a skull and large separate wrap-around neck guard. For this distinctly Chalcis type of helmet, see C. Blair, "Notes on Armour from Chalcis," pp. 9–12.

17. For the Wallace Collection basinet, inv. no. A74, see J. G. Mann, *Wallace Collection Catalogues. European Arms and Armour* (London, 1962) I, pp. 95–96; and A. V. B. Norman, *Wallace Collection Catalogues: European Arms and Armour Supplement* (London, 1986) p. 41. The related Chalcis helmets are those in Athens,

no. B 1 (called a *barbuta* by Boccia, "The Xalkis Funds," pp. 5–6); in Cleveland, acc. no. 23.1065 (H. I. Gilchrist, *A Catalogue of the Collection of Arms and Armor Presented to The Cleveland Museum of Art by Mr. and Mrs. John Long Severance, 1916–1923* [Cleveland, 1924] p. 41, no. B 1); and in the Metropolitan Museum, acc. no. 29.158.43 (Kienbusch and Grancsay, *The Bashford Dean Collection*, p. 117, no. 26).

In referring to the Chalcis helmets in Athens, I am following L. G. Boccia's numbering, which is preceded by the letter B.

18. Boccia, "The Xalkis Funds," p. 6, who calls these helmets "great sallets," suggests a date "not before the last years of the 14th century and perhaps after."

19. For the helmets still in Athens, see Boccia, "The Xalkis Funds," p. 6, helmet nos. B 2 and B 7. For the two examples in the Metropolitan Museum, acc. nos. 29.158.45 and 42.50.33, see Kienbusch and Grancsay, *The Bashford Dean Collection*, p. 115, no. 23, and *Loan Exhibition of European Arms and Armour*, exh. cat., MMA (New York, 1931) no. 49 (lent at that time by Clarence H. Mackay).

20. Sallets with faceted skulls are still found in Athens, nos. B 7 and B 27 (Boccia, "The Xalkis Funds," p. 7) and in the Metropolitan Museum, no. 29.158.44 (Kienbusch and Grancsay, *The Bashford Dean Collection*, p. 114, no. 21).

21. For the "Spanish sallet," see J. G. Mann, "Notes on the Armor Worn in Spain from the Tenth to the Fifteenth Century," *Archaeologia* 83 (1933) p. 301; and C. Blair, *European Armour* (London, 1958) p. 110. For the Chalcis example in Athens, no. B 41, see Boccia, "The Xalkis Funds," pp. 7, 9.

22. Boccia, "The Xalkis Funds," pp. 6–7.

23. Originally a feature of oriental helmets, the nasal was adopted, probably after Turkish examples, by armorers in Eastern and Central Europe beginning around 1550. It was usually fitted to open-faced helmets with peaks (either burgonets or *Zischägge*) that tended to imitate the appearance of Turkish helmets with their conical skulls and articulated cheek and nape plates. A rigid, usually slightly curved bar, the nasal passed through a slot in the peak and entered a bracket above, to which it was fixed in an adjustable position by a wing nut. It is tempting to speculate that the Istanbul helmet may be an old kettle hat adapted in the 17th century for use in Poland, where husars wore similar helmets, though usually with fluted skulls, which were fitted with nasals, cheekpieces, and long, articulated tails (Z. Żygulski, *Stara Brón w Polskich Zbiorach* [Warsaw 1982] pp. 30–32, figs. 16–17).

24. Similar war hats with pointed skulls are frequently found in Italian frescoes of the 14th and early 15th centuries: Simone Martini's *Saint Martin Renouncing Arms*, in the Montefiore Chapel in the Lower Church of the Basilica of San Francesco, Assisi, ca. 1317–20; Barna da Siena's *Betrayal of Christ* in the Collegiata, San Gimignano, ca. 1335–50; Altichiero's *Battle of Clarno*, dated 1378, in the Basilica of the Santo, Padua; and in Spinello Aretino's frescoes in the Palazzo Pubblico, Siena, ca. 1407–10. These examples could be multiplied tenfold and are

not intended to suggest that such helmets were worn only in Italy; on the contrary, ogival pointed basinet and war hats were common throughout Europe in the 14th century. An English war hat comparable to those in Italian paintings is worn by one of the side figures in the brass of Sir Hugh Hastings, 1347, in Elsing Church, Norfolk (J. S. Cotman, *Engravings of Sepulchral Brasses* . . . [London, 1839] I, pl. 1).

Extant war hats of this pointed type dating from the 14th century are unknown, although a war hat with pointed skull and down-turned brim reminiscent of the one in Istanbul has been reconstructed from fragments found in the recent excavations in the courtyard of the Louvre. This extraordinary example, covered in gilt copper with enamel appliqué, bears devices that identify it as the helmet of Charles VI of France (1368–1422); what is almost certainly the same helmet is described in a royal inventory of 1411 (M. Fleury and V. Kruta, "Le Casque de Charles VI découvert dans la Cour Carrée du Louvre, restauré à Nancy," *Archaeologia* 230 [Dec. 1987] pp. 18–24; and M. Fleury, "La Résurrection du casque brisé de Charles VI," *Connaissance des Arts* 439 [Sept. 1988] pp. 150–155).

Another war hat of related form to that in Istanbul is in the Musée Gruérin, Bull (Canton Fribourg), Switzerland, where it is thought to be of late-15th-century date (H. Schneider, "Zwei Helme aus der Burgruine Innerjuvalta," *Waffen- und Kostümkunde* 28 [1986] p. 31, fig. 14). It should be noted, however, that there is a photograph of this helmet in the files of the Department of Arms and Armor at the Metropolitan Museum which is annotated in Bashford Dean's hand to indicate that it was owned ca. 1920 by the well-known collector Georges Paulilhac in Paris, and that Dean considered the piece to be a modern work fabricated by the famous forger Louis Marcy (act. ca. 1870–1914).

25. The first barbute in the top row (a) is still preserved in the Military Museum, inv. no. 6407.

26. Boccia, "The Xalkis Funds," p. 7.

27. Cf. a sallet in the Metropolitan Museum, acc. no. 11.89.5, which bears the marks of a two-towered castle and the letter *p* beneath a split cross. These marks have tentatively been attributed to Pietro Giacomo da Castello by L. G. Boccia, *Le armature di S. Maria delle Grazie di Curatone di Mantova e l'armatura lombarda del 1400* (Busto Arsizio, 1982) p. 291, where the sallet is dated 1510–20.

28. No. B 19; see Boccia, "The Xalkis Funds," p. 7.

29. L. G. Boccia and E. T. Coelho, *L'arte dell' armatura in Italia* (Milan, 1967) pp. 143–144, figs. 124–127.

30. No. B 46; see Boccia, "The Xalkis Funds," p. 8.

31. Ibid.

32. This notation is found in Dean's notebook of 1920. One of these is currently on display in the Military Museum, inv. no. 9491.

33. Inv. no. 11674.

34. These features anticipate, and this sallet seems to be a

development leading toward, the latest type of German sallet, ca. 1500–10, which will be discussed with the group illustrated in Figure 17.

35. For the helmets in Paris, see L. Robert, *Catalogue des collections composant le Musée d'Artillerie en 1889* (Paris, 1889–90) II, p. 4, inv. no. G. 8, and p. 173, inv. no. H. 38. For that in London, see Mann, *Wallace Collection Catalogues*, I, pp. 104–105, inv. no. A89.

36. Helmets very similar to 18a and 18g are still in the Military Museum, inv. nos. 6409 and 14208 respectively. Another helmet almost identical to 18a recently passed through the art market on two different occasions: Galerie Fischer, Lucerne, sale of Nov. 27, 1961, no. 126; and Hôtel Drouot, Paris, Oct. 19, 1983, no. 1.

37. The adoption of the rounded visor by the Helmschmid workshop is discussed by O. Gamber, "Kolman Helmschmid, Ferdinand I. und das Thun'sche Skizzenbuch," *Jahrbuch der Kunsthistorischen Sammlungen in Wien* 71 (1975) p. 30.

38. Inv. no. 344; see L. G. Boccia and J. A. Godoy, *Il Museo Poldi Pezzoli: Armeria I* (Milan, 1985) pp. 92–93, no. 50 (called Mantuan?, ca. 1540–60).

39. Inv. no. 1818; see L. G. Boccia, *Il Museo Stibbert a Firenze: vol. III, L'armeria europea* (Milan, 1975) p. 70, no. 66 (called Mantuan?, ca. 1560).

40. Acc. no. 1977–167–1; see C. O. von Kienbusch, H. Schedelmann, J. F. Hayward, R. H. Randall, Jr., and A. Reinhard, *The Kretzschmar von Kienbusch Collection of Armor and Arms* (Princeton, 1963) pp. 13–14, no. 1.

41. O. Trapp and J. G. Mann, *The Armoury of the Castle of Churburg* (London, 1929) nos. 23 and 61, the latter now in the Royal Armouries, H. M. Tower of London, inv. no. II. 168. Another sallet of the type bearing Italian armorers' marks was sold at Sotheby's, London, on May 15, 1972, no. 207, and now is in an American private collection.

42. The armorers of Innsbruck were strongly influenced by Italian armor fashions, and this sallet might conceivably have been made there, though in the absence of any armorers' marks this suggestion is purely conjectural. For the Italian influence on the development of Innsbruck armor in the 15th century, see B. Thomas and O. Gamber, *Die Innsbrucker Plattnerkunst*, exh. cat. (Innsbruck, 1954) p. 18.

43. Kienbusch and Grancsay, *The Bashford Dean Collection*, p. 125, no. 40, where it was mistakenly catalogued as a *Rennhut*.

44. A. V. B. Norman, "A Comparison of Three Helmets," *Waffen- und Kostümkunde* 1 (1959) pp. 16–21.

45. Kienbusch and Grancsay, *The Bashford Dean Collection*, pp. 68–70, no. 6, where it was part of a composed armor.

46. Ibid., pp. 132–133, no. 48.

47. Ibid., p. 133. The majority of helmets of this type (for example, MMA acc. nos. 29.158.34 and 29.158.36; *ibid.*, nos. 49–50) are without rivets or lining holes along the lower edge

of the visor. On the other hand, an example in the Kienbusch Collection in the Philadelphia Museum of Art, acc. no. 1977-167-72, has a series of closely set holes along the visor's bottom edge, which are described in the catalogue as serving for the attachment of mail (see Kienbusch et al., *The Kretzschmar von Kienbusch Collection*, no. 60). This explanation is not convincing, as gorgets of plate are likely to have been worn by this date (ca. 1500), rendering unnecessary a mail "bib." Furthermore, any mail that was attached to the front edge of the visor would have hung in the wearer's face when the visor was raised, thus being a greater hindrance than help.

48. For a concise history of the Order, see *La Toison d'or: Cinq siècles d'art et d'histoire*, exh. cat. (Bruges, 1962) pp. 19–33.

49. B. Thomas and O. Gamber, *Katalog der Leibrückkammer*, Part I: *Der Zeitraum von 500 bis 1530* (Vienna, 1976) pp. 113–114. The decoration of the gorget includes the collar of the Order of the Golden Fleece in gold (*Goldschmeltz*) on a blued ground, leaving little doubt that the simple saltire on the breastplate is meant to be a cross of St. Andrew.

50. *Ibid.*, pp. 162–163.

51. Inv. no. A. 15; see Conde Viudo de Valencia de Don Juan, *Catálogo histórico-descriptivo de la Real Armería de Madrid* (Madrid, 1898) p. 11. For the decoration of this chanfron, see C. Blair, "The Silvered Armour of Henry VIII in the Tower of London," *Archaeologia* 99 (1965) p. 27 and pl. xvic.

52. Inv. no. A 107; see Thomas and Gamber, *Katalog der Leibrückkammer*, p. 214.

53. Inv. no. III. 1246. The breastplate is part of a heavily restored, composite armor formerly in the collections of Duke Victor of Ratibor, Grafenegg Castle, and William Randolph Hearst. See the sale catalogue, *Waffensaal des Schloss Grafenegg*, Pt. II (Galerie Fischer, Lucerne, May 2, 1934) no. 93. I am informed by Ian Eaves at the Royal Armouries (letter of May 16, 1988) that the gorget, lance rest, backplate, and gauntlets are associated and have been etched in modern times to match the genuine decoration on the breastplate.

54. Inv. no. 1267; see N. di Carpegna, *Armi antiche dal sec. IX al XVIII già collezione Odescalchi*, exh. cat. (Rome, 1969) p. 22, no. 108.

55. Inv. no. III. 76; unpublished.

56. Inv. no. A 109; see Thomas and Gamber, *Katalog der Leibrückkammer*, pp. 216–217.

57. Inv. no. VI. 6–12; see C. Ffoulkes, *Inventory and Survey of the Armouries of the Tower of London* (London, 1916) I, pp. 199–200, and C. Blair, "The Silvered Armour," pp. 37–38.

58. The roller on the sallet presumably supplemented those on the metal framework "bevor" that was bolted to the mechanical breastplate and hooked over lugs at the side of the sallet (thus holding the helmet in a rigid position, not to be easily dislodged with the shock of the opponent's blow). Curiously, none of the *Bundrennen* jousters depicted in *The Triumph of Maximilian* (Figure 37) wears a sallet with a roller.

For the *Bundrennen* and related "mechanical" jousts, see O. Gamber, "Der Turnierharnisch zur Zeit König Maximilians I. und das Thun'sche Skizzenbuch," *Jahrbuch der Kunsthistorischen Sammlungen in Wien* 53 (1957) pp. 68–69.

59. The two sallets for the *Bundrennen* are those in the Musée de l'Armée, Paris (Figure 37), and in the Wallace Collection, London (inv. no. A80). The Paris sallet, which bears the mark of the Landshut armorer Matthes Deutsch, is a true *Rennhut*, whereas the Wallace Collection example was originally a field helmet that was subsequently modified, by the addition of a roller, for use in the *Bundrennen*. Both helmets are discussed by Norman, *European Arms and Armour Supplement*, p. 43.

Two mechanical breastplates are preserved in the Waffensammlung, Vienna, inv. nos. B21 and B25 (Thomas and Gamber, *Katalog der Leibrückkammer*, pp. 172–173), while a third, formerly in Vienna, is now in the Musée de l'Armée, inv. no. G. 528 (J.-P. Reverseau, *Les Armes et la vie* [Paris, 1982] p. 71, fig. 8).

60. Kienbusch and Grancsay, *The Bashford Dean Collection*, p. 136. In his catalogue, *Loan Exhibition of Medieval and Renaissance Arms and Armor from The Metropolitan Museum of Art*, exh. cat., California Palace of the Legion of Honor (San Francisco, 1953) no. 25, S. V. Grancsay maintained the attribution of this sallet to Kunz Lochner, ca. 1545, but dropped the association with Moritz of Leipzig.

61. Inv. no. A 54; see Valencia de Don Juan, *Catálogo histórico-descriptivo de la Real Armería*, p. 29.

62. J. G. Mann, "The Etched Decoration of Armour: A Study in Classification," *Proceedings of the British Academy* 27 (1940) p. 8.

63. The fundamental study of Kolman Helmschmid and his armors is that of Gamber, "Kolman Helmschmid," pp. 9–38.

64. Thomas and Gamber, *Katalog der Leibrückkammer*, pp. 225–226.

65. Gamber, "Kolman Helmschmid," p. 9.

66. *Ibid.*, p. 18.

67. For Lorenz Helmschmid, see Gamber, "Der Turnierharnisch," pp. 33–70; for Jörg Helmschmid, see B. Thomas, "Jörg Helmschmid d. J., Plattner Maximilians I. in Augsburg und Wien," *Jahrbuch der Kunsthistorischen Sammlungen in Wien* 52 (1956) pp. 33–50.

68. Robert, *Catalogue des collections composant le Musée d'Artillerie*, II, pp. 175, 127, respectively; album, pls. 25, 63 (see note 69). Both pieces disappeared in World War II and are now in Moscow ("Spoils of War in the State Historical Museum, Moscow," *Connoisseur* 165 [1967] pp. 1–3, figs. 8–9).

69. The first and only published reference indicating the existence of Lorenz Helmschmid's mark on the tilting socket is found in F. Bernadac, *Appendice au catalogue du Musée d'Artillerie* (Paris, 1899) p. 41. The Helmschmid mark is, however, clearly visible in the photographs published ca. 1890–1900 by the Musée d'Artillerie (from 1927 the Musée de l'Armée) in an untitled album of 150 photographs, pl. 63.

70. Other armors made by Lorenz Helmschmid at the end of his life that came very close to the style of his son's include the armor of the Count Palatine Ottheinrich (1502–59), dated 1516, in the Waffensammlung, inv. no. A 239 (Thomas and Gamber, *Katalog der Leibrüstkammer*, pp. 223–224); and an armor of about 1515–16 in Bern, inv. no. 101 (R. Wegeli, *Inventar der Waffensammlung des Bernischen Historischen Museums in Bern I* [Bern, 1920] pp. 55–60, no. 81).

71. In an incomplete MS. inventory of Dean's collection, now in the Kienbusch Library of the Philadelphia Museum of Art, Dean described his sallet as follows: "Salade, for tilting, German, ca. 1545. Workmanship of Kunz Lochner. Engraved, gilded, cannulated and embossed, the embossing shown in an electoral crown. Piece of highest importance historically and artistically. There is reason to believe that it belonged to Moritz of Leipzig, whose monogram it bears and whose electoral crown is represented. . . . The present object was discovered in the store-room of the small fortress in the island of Crete." The obviously incorrect provenance is at first startling, though it probably reflects a promise from Dean to the Military Museum that he would never reveal the source of his acquisition. In the 1920s, when many titled owners and even national museums in Europe sold arms and armor from their collections because of the depressed economic conditions, discretion about provenance was often a condition of sale.

72. For Moritz, see W. von Seidlitz, *Die Kunst in Dresden vom Mittelalter bis zur Neuzeit*, vol. I: 1464–1625 (Dresden, 1921) pp. 139–192.

73. *Matthias Corvinus und die Renaissance in Ungarn 1458–1541*, exh. cat., Schloss Schallaburg (Austria, 1982) no. 548.

74. For the background of the double betrothal and Maximilian's ambitions for the union of the Hapsburg hereditary lands (*Erblände*) and the eastern territories of Hungary and Bohemia, see R. A. Kann, *A History of the Habsburg Empire 1526–1918*, 2d ed. (Berkeley/Los Angeles, 1977) pp. 1–24.

75. For Süleyman's European campaigns, see Atil, *The Age of Sultan Süleyman*, pp. 21–22.

76. Thomas and Gamber, *Katalog der Leibrüstkammer*, p. 218 (with earlier bibliography). The attribution to Louis II dates from a 1583 inventory description of what is in all likelihood

this armor (Thomas and Gamber, *Die Innsbrucker Plattnerkunst*, p. 69, no. 74).

77. Thomas and Gamber, *Katalog der Leibrüstkammer*, p. 208. The pauldron has long been associated with Louis II on the basis of a portrait of the monarch published by J. Schrenck von Notzing, *Der . . . Keyser . . . Bildnissen und . . . Beschreibungen ihrer Taten, deren Waffen . . . in Schloss Ombras . . . aufbehalten werden* (Innsbruck, Latin ed. 1601, German ed. 1603); see the new edition, annotated by B. Thomas, *Jakob Schrenck von Notzing, Die Heldenrüstkammer (Armamentarium Heroicum), Erzherzog Ferdinands II. auf Schloss Ambras bei Innsbruck* (Osnabrück, 1981) no. 11. The engraved portrait shows the king wearing a fluted armor, with "slashes" on the poleyns (knees), and with both shoulders covered by a cloak! This evidence alone seems too scanty to support the attribution, which was already questioned by Thomas and Gamber in 1954 (*Die Innsbrucker Plattnerkunst*, p. 71, no. 84).

78. Gamber, "Kolman Helmschmid," p. 11, noting that the portrait of Charles V shows him wearing a beard, which he grew only in about 1530. The first mention of the Thun Sketchbook was published by Q. von Leitner, "Artistisches Quellenmaterial aus der Gräfl. Thun-Hohenstein'schen Fideikommiss-Bibliothek in Tetschen," *Jahrbuch der Kunsthistorischen Sammlungen des Allerhöchsten Kaiserhauses* 7 (1888), pt. 2, pp. 1–6, where the four portraits are reproduced (Register nos. 4578–4581). Von Leitner related the portraits to woodcuts in *Die Genealogie Kaisers Maximilian I*, attributing the original sketches to Hans Burgkmair the Elder and dating them to between 1516 and 1519. This portrait of Louis II was overlooked by I. Schlegel, "Ein Beitrag zur Ikonographie König Ludwigs II von Ungarn," *Miscellanea Jozef Duverger* (Ghent, 1968) I, pp. 153–168. Judging from the portraits reproduced by Schlegel, the likeness of Louis II in the Thun Sketchbook is either a fairly early one, before the king grew a beard (by 1522), or is merely an idealization.

79. The sketch of a culet (tail plate) from a backplate, on the same page as Louis II's portrait, is puzzling: its style suggests a date of ca. 1495 (a comparable backplate is on Lorenz Helmschmid's armor for Philip the Handsome, Figure 30).

80. Letter of Sept. 12, 1983.

81. D. G. Alexander, "European Swords in the Collections in Istanbul, Part II," *Waffen- und Kostümkunde* 29 (1987) p. 22.