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The Iconography of a Military Elite: Military Figures on an Early Thirteenth-Century Candlestick (Part II)

Iconography of the Candlestick: The Horsemen

When looking at the horsemen on the Costa candlestick one is struck by the way in which the artist who designed these men and animals seems to have been at pains to illustrate a number of distinct combat actions (photographs 4–12 and figures 1–9).^{*} It is almost as if he was inspired either by pictures in lost early cavalry training manuals, or by what he saw on a regular basis in the *maydān* training ground of the city where he worked. If the candlestick was made in early thirteenth-century Mosul, as seems most likely, the artist or craftsman would surely have often seen fully trained *mamlūk* or *ghulām* troops training on the open space south of the citadel. This was separated from the main urban area by a wall but was still located within the overall fortifications of the city, serving as Mosul's main *maydān*, next to the old Uqaylid and newer Zangid walls.¹ The *atabeg* or ruler of Mosul, Mas'ūd 'Izz al-Dīn, was also said to have had a kiosk or viewing position built for himself and his immediate entourage at this *maydān*. There would be a notable increase in the construction, repair, and use of such officially established or sanctioned military training grounds in Syria and Egypt from the 1240s onwards. But perhaps this process actually started a decade or so earlier in places like Mosul.

In other words, the candlestick might be one of the earliest surviving illustrations of *furūsīyah* cavalry training exercises as well as itself reflecting a revival of interest in such specialized skills. Of course many "cavalry postures" or weapons techniques are shown in Islamic art of this and earlier centuries. Certainly they appear in greater variety than are shown in Western European or Byzantine art. Only Chinese and to some extent Central and Inner Asian art compete in this respect. The earliest surviving *furūsīyah* military training manuals date from over a century later than the Costa candlestick. Whether their illustrations are based upon lost earlier *furūsīyah* manuals is unknown, but it is interesting to see how several of the cavalry skills shown in the illustrations which accompany these texts almost mirror those on the candlestick.

^{*}See Part I, "The Iconography of a Military Elite: Military Figures on an Early Thirteenth-Century Candlestick," *Mamlūk Studies Review* 18 (2014–15): 57–90, for photographs 1–15c and figures 1–9 (http://mamluk.uchicago.edu/MSR_XVIII_2014-15_Nicolle.pdf).

¹D. L. Patton, "A History of the Atabegs of Mosul and their Relations with the Ulama, A.H. 521–660/A.D. 1127–1262" (Ph.D. diss., New York Univ., 1982), 46–48.



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DOI: [10.6082/M16971RQ](https://doi.org/10.6082/M16971RQ). (<https://doi.org/10.6082/M16971RQ>)

DOI of Vol. XIX: [10.6082/M1HH6H5C](https://doi.org/10.6082/M1HH6H5C). See <https://doi.org/10.6082/Y9V3-8H75> to download the full volume or individual articles. This work is made available under a Creative Commons Attribution 4.0 International license (CC-BY). See <http://mamluk.uchicago.edu/msr.html> for more information about copyright and open access.

The magnificently illustrated manuscript of *Warqah wa-Gulshāh*, now in the Topkapı Library, is particularly varied in its illustrations of fighting skills and combat techniques. Like the candlestick, its illustrations are widely thought to be in a style stemming from the early thirteenth century, though the precise dating and provenance of the manuscript remains a matter of debate. According to Alan Safani, the name of the presumed artist, ‘Abd al-Mu’min of Khoy (a town north of Lake Urmia in northwestern Iran), has been identified on one page.² The manuscript can fairly be described as a product of a Seljuq artistic milieu, but whether this was Azerbaijan, Iran, or Anatolia remains unknown. Safani emphasized the heritage of Sassanian Iranian art as well as that of pre-Islamic Central Asian wall painting. He also noted evidence for artistic continuity through early Islamic wall paintings in Afghanistan and Iran, fragments of which survive and which were often mentioned in written sources from the eighth and twelfth centuries, as well as written evidence for earlier illustrations of the *Shāhnāmāh* than currently exist.³

Because the cavalymen on the Costa candlestick form a running frieze, each man being on combat with the person either preceding or following him, the relationship between their differing military techniques may be significant. Some *furūsīyah* manuals placed particular emphasis upon the specific weapon a man should employ when facing an opponent armed in a particular manner. Chapter 4 of the *Kitāb nihāyat al-su’l*, for example, deals with encounters between horsemen: part one when a horse-archer meets others, part two when a spear-armed horseman meets others, part three when a sword-armed horseman meets others, part four when a javelin-armed horsemen meets others, and part six when a horseman armed only with a *khanjar* large dagger meets others. Chapter 5 similarly deals with encounters between horsemen and infantry; chapter 6 focuses upon encounters between infantry and horsemen, and chapter 7 upon infantry against infantry.⁴ These all entailed very specific recommended skills which the properly trained, professional military élites of the Islamic Middle East were expected to possess.

Two of the nine figures on the Costa candlestick are fighting with bow and arrow (figures 5 and 6) and one with a sword (figure 4). The other six all fight with various types of spear or lance (figures 2–3 and 7–9). This distribution of weapons may seem surprising to observers brought up on the idea that Middle Eastern Islamic armies, especially those dominated by Turks during the twelfth and thirteenth centuries, relied primarily upon horse archery. Nevertheless, closer study

² Alan Safani, “The Battlescenes of Varqa va Golshah and their Prototypes,” *Marsyas* 21 (1981–82).

³ *Ibid.*, 2–5.

⁴ A. S. M. Lutful-Huq, “A Critical Edition of *Nihayat al Su’l* [Al-Aqsarā’i]” (Ph.D. diss., London Univ., 1956), Ch. 4.



of the documentary sources and, above all, the *furūsīyah* military training literature of these and previous centuries confirms that horse archery was but one of the skills expected of a professional soldier.

Dr. Shihab al-Sarraf, the leading scholar in the highly specialized field of Arab *furūsīyah* literature, emphasizes the fact that horse archery was regarded as a military skill of relatively minor importance in Abbasid *furūsīyah* traditions. Abbasid *furūsīyah* literature came to full flowering in the ninth and tenth centuries, and thereafter remained the primary source for the bulk of those *furūsīyah* texts which date—or appear to date—from subsequent centuries. In reality, of course, most twelfth- to fifteenth-century *furūsīyah* texts were either copies of, abbreviations of, or updated versions of Abbasid texts. In the Abbasid originals the *laʿb al-rumh* or “lance game” was of far greater importance than horse archery in military training and presumably thus in military combat. Indeed, skill in *laʿb al-rumh* remained basic to the assessment of troops for muster and payment. Not until the emergence of the Mamluk Sultanate in Egypt and Syria in the mid-thirteenth century did the importance and status of archery really start to rise, and even so, this phenomenon was more characteristic of the fourteenth and fifteenth centuries.

For example, in the *Tabṣirat arbāb al-albāb* written by al-Ṭarsūsī for Saladin around 1170, there seems to be an assumption that a horse archer was primarily a lancer. Here the author states that when a horseman wanted to use a bow, he should first put his spear under his right thigh, but if that position was already occupied by a sword—presumably meaning the second or “saddle sword” shown in some Islamic art sources (figures 126y and 175, perhaps also 126nn)—he should put the spear under his left thigh.⁵ Preference for the right over the left thigh must have reflected the greater encumbrance that a spear would form on an archer’s left side.

One of the horse archers on the Costa candlestick shoots forward while the other aims to the rear in the manner known to European scholars as the Parthian Shot. Both are using ordinary arrows while other arrows fly through the air or lie upon the ground. None of these missiles appears to be the “short arrow” or dart mentioned in various *furūsīyah* texts, and noted in European sources from the Crusader period. Such “darts” were shot from an ordinary hand-held, composite bow using an arrow guide. All the evidence, including the abundant numbers of medieval Middle Eastern arrows uncovered by archaeologists, show that ordinary arrows were of a consistent length. This was for the simple reason that an archer always drew to his cheek—in other words a full draw. If an archer did not

⁵Murḍī ibn ʿAlī ibn Murḍī al-Ṭarsūsī, *Contribution à l’Étude de l’Archerie Musulmane*, trans. A. Boudot-Lamotte (Damascus, 1969), 146–47.



do so, it was impossible for him to aim properly and archers certainly did not attempt to vary the speed of their arrow by altering the length of the draw.

The second archer, who is shooting to the rear and slightly downwards (figure 5), turns in the saddle. This was the case in the majority of all other representations of the so-called Parthian Shot in Islamic and other art. The often mentioned invention of a special saddle with a very low cantle or rear, which enabled a horse archer to shoot directly backwards at a *qabaq* or raised target,⁶ was a *maydān* display trick. As such it was intended for public display rather than the battlefield. On the Costa candlestick the only horseman who appears to be injured seems to have an arrow through his neck (photograph 10; figure 7), but this arrow is the only one which clearly lacks a blade! Might this be another reference to *furūsiyah*; perhaps to a training exercise made slightly less dangerous by the use of blunt arrows?

There is relatively little reference to training with the sword in early *furūsiyah* literature. It almost appears that skill with a sword was already expected of a soldier, almost as part of his education before entering the *maydān* as part of a military team. For a member of the military elite the sword was, of course, the most personal of weapons. It was also regarded as a fighting man's last line of defense. Perhaps it was otherwise seen as relatively unimportant in terms of overall cavalry training; at least until the Mamluk era. Priorities then seem to have changed, as reflected in the *Nihāyat al-su'l*, which devotes considerable space to exercises with the sabre, along with several illustrations (photograph 58).

This leaves those horsemen who wield a spear or lance. The study of this weapon and its variations within medieval Islamic civilization is complicated by the fact that so many different terms were used. Many reflected differences amongst such weapons, either major or more subtle. Some were used both on horseback and on foot. There also seems to have been some degree of overlap in the terminology of spears to be thrust, javelins to be thrown, and long-hafted staff weapons for both cut and thrust. Despite over a century of modern study, this remains a field which lacks clarity where its terminology is concerned (see Appendix 3). What remains clear is that there was genuine variety, even amongst spears or lances for use on horseback. This is, of course, also apparent on the Costa candlestick. Here the weapons vary considerably in the length of their hafts, the sizes or shapes of their blades, and the possession of one blade or a blade plus a blade-like foot or butt. Meanwhile the pennons attached to such weapons are almost equally varied.

Like so many Islamic sources from this period, the *Nihāyat al-su'l* training manual agrees that more than one kind of spear was used by cavalry. This is

⁶David Ayalon, "Notes on the Furūsiyya Exercises and Games in the Mamlūk Sultanate," *Scripta Hierosolymitana* 9 (1961): 55–56.



specifically noted in the text's answer to the question: "Where should a lance be put if one wants to use the bow or other weapon?" The answer was: "Whether the lance is heavy or hollow or of knotted cane, then, according to the experts, it should be hung from the belt."⁷ In fact, a clear distinction between long and short lances had been made explicit from an early period. For example, the chronicler al-Balādhurī quoted a poem which celebrated the early Muslim victory at the battle of al-Ghamr: "Yea, may all short and humble lances be sacrificed, In favor of the horsemen's lances at al-Ghamr."⁸ Discussion of the relative merits of long and short spears also featured in the writings of al-Jāḥiẓ in the ninth century, though this scholar also maintained that the *rumḥ* was more effective when a cavalryman was using the still not universally accepted stirrups.⁹

A similar distinction was drawn between hard and seemingly solid lance hafts of *nab'* wood and the more easily broken hafts of reed, in this case during the tenth century.¹⁰ The lances of *nab'* used by the Fatimid forces in North Africa during the late ninth century were described as "flexible" by the poet and Fatimid polemicist Muḥammad Ibn Hānī' al-Andalusī, clearly suggesting that this was a positive characteristic.¹¹ This *nab'* has been identified as *grewia tenax* (*chadara tenax*) whose timber was imported into Arabia from several directions during the medieval and probably also the pre-Islamic periods. In contrast, in thirteenth-century northern India, Muḥammad Ibn Manṣūr al-Dīn Mubārakshāh's description of lances with hafts of reed as being wobbly and unreliable was clearly intended as a criticism.¹² One of the strangest forms of cavalry lance was that described by Usāmah Ibn Munqidh in the twelfth century. He recalled how the people (presumably meaning the garrison) of Ḥimṣ in central Syria joined two spears together to form a *rumāḥ mu'allifah* or compound lance which had a total length twenty *dhirā'an* (twenty Islamic cubits, which has been interpreted as eighteen western cubits), perhaps nine meters.¹³ It was so long that the end trailed upon the ground when a horseman rode by.

⁷David Nicolle, "The Reality of Mamluk Warfare: Weapons, Armour and Tactics," *Al-Masāq* 7 (1994): 89.

⁸Al-Balādhurī, *Kitāb futūḥ al-buldān*, ed. De Goeje (Leiden, 1866), 135; idem, *The Origins of the Islamic State*, trans. P. K. Hitti and F. C. Murgotten (London, 1916), 1:148.

⁹Al-Jāḥiẓ, *Al-Bayān wa-al-tabyīn*, ed. Ḥasan al-Sundūbī (Cairo, 1947), 14.

¹⁰Marius Canard, "L'Impérialisme des Fatimides et leur Propagande," in *L'Expansion Arabo-Islamiques et ses Repercussions*, ed. Marius Canard (London, 1974), 168.

¹¹Muḥammad Ibn Hānī' al-Andalusī, *Tabyīn al-ma'ānī fī sharḥ diwān Ibn Hānī'*, ed. Z. 'Alī (Cairo, 1934), 686–87.

¹²Muḥammad Ibn Manṣūr Fakhr al-Dīn Mubārakshāh, *Ādāb al-ḥarb wa-al-shujā'ah*, ed. A. S. Khwānsārī (Tehran, 1969), 261.

¹³Usāmah Ibn Munqidh, *Kitāb al-i'tibār*, ed. P. K. Hitti (Princeton, 1930), 101; idem, *Memoires of an Arab-Syrian Gentleman*, trans. P. K. Hitti (Princeton, 1929), 131.



In the *furūsiyah* texts fighting with the spear or lance was regarded as a “middle distance” form of combat, lying between long-distance projectile weapons like the bow and arrow, and close combat with swords, maces, etc.¹⁴ Thrusting with the lance was also considered to be the most effective and prestigious form of combat.¹⁵ Small wonder that it was given pride of place on high status works of art such as the inlaid brass Costa candlestick.

High regard for the lance was similarly reflected in literature, where its varied techniques were often described in detail. In the *Warqah wa-Gulshāh* poetic epic, the text of which probably dates from at least a century before the surviving illustrated manuscript in the Topkapı Library, one horseman “turned a lance in his hand like a serpent.”¹⁶ Elsewhere in the same text a cutting (presumably lateral) blow made an opponent lose his stirrup.¹⁷ Other thrusts were driven into an enemy’s thigh,¹⁸ or aimed at his arms.¹⁹ This was all very different from the extremely limited, though undeniably effective, arsenal of blows possible with the couched lance as preferred by the Western knightly elite.

While the significance of the lance as a cavalry weapon during the early thirteenth century is surely reflected in the horsemen who adorn the sides of the Costa candlestick, the importance of what were called “the arts of the lance” in *furūsiyah* literature of the Mamluk period and earlier has been emphasized by Shihab al-Sarraf in a number of publications.²⁰ He noted that, no matter how important the legacy of Abbasid *furūsiyah*, it was in the field of lance play that the Mamluks showed genuine creativity and where their contribution to *furūsiyah* was most apparent.

The credit for these developments went almost entirely to Syrian lance masters and above all to the celebrated Syrian master Najm al-Dīn al-Aḥḍab al-Rammāḥ (1238–96). He is credited with making innovations in three of the four recognized categories of military lance play. However, Najm al-Dīn al-Aḥḍab al-Rammāḥ’s fame rests principally upon the seventy-two *bunūd* chapters or exercises that he condensed from the no less than 150 *bunūd* in the original Abbasid *furūsiyah*

¹⁴ Lutful-Huq, “A Critical Edition of *Nihayat al Su’l*,” 8, 316.

¹⁵ *Ibid.*, 43, 335.

¹⁶ Ayyūqī, “Le Roman de Varqe et Golshāh,” ed. and trans. A. S. Melikian-Chirvani, *Arts Asiatiques* 22 (1970): verse 365.

¹⁷ *Ibid.*, verse 447.

¹⁸ *Ibid.*, verses 540–41.

¹⁹ *Ibid.*, verses 1145–46.

²⁰ Shihab al-Sarraf, “Furūsiyya Literature of the Mamlūk Period,” in *Furusiyya*, vol. 1, *The Horse in the Art of the Middle East*, ed. D. Alexander (Riyadh, 1996), 123–24; *idem*, “Mamlūk Furūsiyyah Literature and its Antecedents,” *MSR* 8 (2004): 172–75.



treatises.²¹ One of the most accessible surviving versions of Najm al-Dīn al-Aḥḍab al-Rammāḥ's work is an abbreviation by Muḥammad Ibn ʿIsā al-Aqsarāʾī, who himself stemmed from Damascus. Al-Aqsarāʾī was a younger contemporary of Najm al-Dīn al-Aḥḍab al-Rammāḥ as well as a student of one of the great lance master's own students, ʿIzz al-Dīn al-Rammāḥ. Being unable to find a definitive copy of Najm al-Dīn's *Kitāb al-bunūd* treatise, he used four different versions of this work in his own *Nihāyat al-suʾl*. Shihab al-Sarraf infers from this and other evidence in al-Aqsarāʾī's work that there was probably more than one version of Najm al-Dīn's original *Kitāb al-bunūd*.²²

Amongst the great variety of skills with a spear demanded of a horseman in the *Nihāyat al-suʾl* is that of "turning the weapon above the head," as seems to be shown on the Costa candlestick (figure 9). In practical terms this enabled a horseman to strike or parry in any direction.²³ The candlestick also shows a horseman thrusting to the rear (figure 3), though here the weapon is held at chest or neck height. Another interesting passage in the *Nihāyat al-suʾl* refers to rotating the lance "in the Khurāsānī fashion."²⁴ In fact this Khurāsānī style of lance combat included several other thrusts, parries, and manoeuvres, but it was meanwhile stated to be "old fashioned" or was at least regarded as being long established. The *Nihāyat al-suʾl* is not alone in describing different methods of using the cavalry lance, each of which has its own name. One of the most interesting is the "Syrian attack" which is presented as a *Rūmī* [Byzantine] style. The text makes it clear that this is none other than the couched lance so characteristic of Western knights.²⁵

The idea that the couched lance was tactically superior to other methods of using a spear on horseback, including those that were more widespread in the Islamic Middle East, and that this accounted for the Crusaders' success in many battles, must be viewed with great caution.²⁶ Furthermore, it was clearly not the only combat style capable of penetrating armor. Although Usāmah Ibn Munqidh's fascinating book of recollections was the work of an old man, often bringing to mind the adventures of his youth, an account of how he pierced two coats of mail with a lance thrust at the back of a fleeing horseman is one of the most detailed to come down to us from the medieval period. On this occasion Usāmah

²¹A. Carayon, "La Furūsiyya des Mamlūks; une élite sociale à cheval (1250–1517)" (Ph.D. diss., Aix-en-Provence, 2012), 232–34.

²²Al-Sarraf, "Mamlūk Furūsīyah Literature," 173–74.

²³Lutful-Huq, "A Critical Edition of *Nihāyat al-Suʾl*," 182 passim.

²⁴Ibid., 193.

²⁵Ibid., 197.

²⁶Nicolle, "The Impact of the European Couched Lance on Muslim Military Tradition," *Journal of the Arms and Armour Society* 10 (1980): 6–40 (reprinted in D. Nicolle, *Warriors and their Weapons around the Time of the Crusades*, Variorum Collected Studies Series [Burlington, VT, 2002], Ch. 4).



made it clear that he was not using the couched lance.²⁷ Nevertheless, elsewhere in his book the old man does advocate the couched technique of lance play.²⁸

There are nine horsemen galloping around the sides of the Costa candlestick, all heading in the same direction and moving from right to left. There are also nine horsemen in the inner circle of inlaid figures on the Freer Gallery Canteen, similarly heading from right to left in an anti-clockwise direction. The latter figures have been described in detail by Eva Baer, though sometimes her interpretations of their weaponry and combat actions are slightly misleading:

They are headed by an archer [in fact both the archers on this piece of metalwork are armed with crossbows, which makes them especially unusual and interesting], who is shown directly under the spout of the vessel. To indicate the caesura in the composition, the artist placed a single plant in front of the first horse. The riders are armed and depicted in the act of fighting. Two carry bows [crossbows]; the rest throw [wield, as none appear to be using their weapons as javelins] lances with gonfalons and streamers. With the exception of the mount belonging to a lancer ... [figure 4 counting anti-clockwise] wearing a curious hat or helmet, the lancers' horses all wear heavy, richly decorated caparisons. The archers' horses are equipped only with light saddlecloths.²⁹

Eva Baer continued:

The horsemen, in contrast, are part and parcel of an Islamic tradition that conveys the idea of princely activities, such as the hunt, warfare, and royal games. The weapons, caparisons, and armor in this frieze are not of the standard Islamic type found in paintings and art objects of the time, however. The first and third rider [counting anti-clockwise] are armed with crossbow and arrow; the others carry lances with gonfalons and streamers. The horses numbered 2 and 6 [counting anti-clockwise] are covered with huge, slit saddlecloths that hang down on either side; number 9 has basketweave trappings that give the impression of woven leather strips, and its head is encased in armor.

Baer then noted that such unconventional details are not unique to Islamic warriors, as they appear in the candlestick under consideration in this article: "... a

²⁷Usāmah Ibn Munqidh, *Memoires of an Arab-Syrian Gentleman*, 41–42, 68–69.

²⁸Ibid., 42, 70.

²⁹Eva Baer, *Ayyubid Metalwork with Christian Images*, Studies in Islamic Art and Architecture, Supplements to *Muqarnas*, vol. 4 (Leiden, 1989), 21.



long slit saddlecloth is illustrated in the Varqa and Gulshah manuscript, but they are also reminiscent of Crusader outfits. Gonfalons with two streamers and the huge saddlecloth are featured on Crusader seals and in illustrated manuscripts and were in fact distinguishing marks of the Frankish knights. M. Dimand, the first among Western scholars to interpret the Freer canteen, was convinced that it depicted European Christians and probably Crusaders.”³⁰ Eva Baer, like so many others, accepted Dimand’s thesis, concluding with the remark that: “his notion that these warriors were meant to represent Crusaders was probably correct and would fully agree with the character of the rest of the decoration.”³¹

Dr. Julian Raby also largely agreed with such an identification of some of the figures on the Freer Canteen and, by the extension of similar arguments, on the Costa candlestick. He has written that: “In fact, the figures of Crusader and Muslim knights on the reverse of the [Freer] canteen relate to those on a candlestick [the Costa candlestick] we have already associated with Mosul, while the [Christian] figurative imagery on the front has strong links not to Syria but to Jacobite Syriac imagery connected to monasteries in Mosul and what is now southeast Turkey.” Dr. Raby then produces detailed evidence linking the Christian iconography of the Freer Canteen to Mosul and nearby Syriac monasteries in the early thirteenth century, further strengthening this location and period as the origin of both the Freer Canteen and the Costa candlestick.

Julian Raby now turns to the military figures:

On the rear of the canteen there is a frieze showing a combat between Crusader and Muslim knights, and the figures are a simplified version of those found on a candlestick [the Costa candlestick] we earlier associated with Mosul—it bears the diagnostic octagon motif, and uses banal inscriptions similar to those on the ewer by Ibrahim ibn Mawaliya. The figures on the candlestick are considerably more detailed than those on the canteen; and the flying pennants are intelligible on the candlestick in a way that they are not on the canteen. ... As the candlestick dates, I believe, to the late 1220s or early 1230s, and the canteen to a decade or more later, we can see the process of deformation over time. Yet the two objects seem ultimately to have shared a common model. The relationship between the candlestick and the canteen strengthens the attribution of the canteen to Mosul, and their dependence on a graphic model confirms what we have seen from the other few examples

³⁰M. S. Dimand, “A Silver-Inlaid Bronze Canteen with Christian Subjects in the Eumorphopoulos Collection,” *Ars Islamica* 1 (1934): 17.

³¹Baer, *Ayyubid Metalwork*, 46.



cited: that there was a phase of Mosul production in the second quarter of the thirteenth century that drew on a pictorial tradition for inspiration.³²

It is only on the identification of some of the horsemen on both the candlestick and the canteen that I venture to disagree with both these highly respected scholars. One of the key features which Dimand highlighted to support his contention that some or all of the cavalrymen on the Freer Canteen were Westerners or Crusaders was the presence of crossbows (photograph 15a). This weapon is not, of course, shown on the Costa candlestick. Nevertheless it is important to point out that more recent studies have shown that the crossbow was far from being a specifically Western or European weapon during this period, or indeed during the Middle Ages as a whole (photographs 17 and 56). Furthermore, its use on horseback as shown on the Freer Canteen, as distinct from being carried by mounted infantrymen who dismount to fight, appears to have been more typical of the medieval Islamic world (photograph 16) than it was of medieval Europe with the exception of the strongly Islamic-influenced Iberian Peninsula (figures 102a–b), at least until the fifteenth century.³³

There is also a widespread assumption that horse armor was more typical of the knightly elites of twelfth- and thirteenth-century Latin Christendom, including the Crusader States, than it was of the rival Islamic military elites. There is no disputing the fact that horse armor suddenly became common in Islamic art following the Mongol invasions and conquests (figures 183 and 184). Nevertheless, horse armors and caparisons had been seen earlier, though it is often difficult to distinguish between horse coverings with a protective function and those without such a purpose (figures 89, 90, perhaps 112, 126b, 126oo, and strongly Islamic-influenced 143). Furthermore, such equipment had been seen in pre-Islamic art from territories which became part of the medieval Islamic world (figures 78a–c and 79). And, of course, it was mentioned quite frequently in Islamic written sources, both in Arabic and Persian, and latterly Turkish.

One of the most interesting but little-known representations of medieval horse armor comes from the Hoysala culture of southwestern India. Here some of the horse armors include the otherwise seemingly unknown feature of holes through which the rider thrust his feet to control his animal and which, presumably, offered greater protection when fighting men on foot (figures 130a–d). Meanwhile horse armor had been a feature of a small and specialized proportion of Byzan-

³²Julian Raby, “The Principal of Parsimony and the Problem of the ‘Mosul School of Metalwork,’” in *Metalwork and Material Culture in the Islamic World*, ed. V. Porter and M. Ross (London, 2012), 46–52.

³³The question of the use and relative importance of the crossbow in the medieval Islamic world will be the focus of a forthcoming study which I hope to undertake with Arthur Credland.



tine heavy cavalry throughout the early and high medieval periods (figure 113). In contrast it had for all intents and purposes disappeared from the rest of Christian Europe, from the fall of the Western Roman Empire until the late twelfth century. Even then it only became widespread from the thirteenth century onwards (figures 129, 131, 133, 143, 169a-b, 170a-b, and 173a-b).

I would therefore venture to suggest that, from the seventh to mid-twelfth century, horse armor was more common in the Islamic world than in western, central and even Mediterranean Europe. Even so it is important, though not always entirely possible, to differentiate the terminology of true horse armor, non-protective caparisons, and merely oversized saddlecloths. Terms which undoubtedly referred to horse armor of varying methods of construction, including padded, quilted, or simply felt “soft armor,” include the commonly used Arab word *tijfāf*. Although *tijfāf* originally referred to a method of construction employing felt, it may have been, or have become, synonymous with the Persian *bargustuwān*. The latter clearly indicated usage rather than construction and was eventually absorbed into Arabic, sometimes as *barkustuwān*. This was translated as a “steel caparison” in fourteenth-century Mamluk Egypt,³⁴ and even as a gilded or inlaid elephant armor of the thirteenth-century Delhi Sultanate.³⁵

Also in thirteenth-century Islamic northern India, the term *bargustuwāni-i jāmagī* was specifically used for a quilted form of horse armor. As such it should therefore be attacked with the same type of broad arrowheads as the quilted *khaftān* soft armor worn by a man.³⁶ Another later medieval term for a horse armor or caparison was *barāsim*.³⁷ In early medieval Turkish Central Asia, horse armor was known as *kedımlı*,³⁸ while it is possible that the later Turcoman Turkish term for a large felt horse cloth or caparison, *gezermen*, was somehow linked to *gustuwān*, a shortened form of the term *bargustuwān* seen in early thirteenth-century Ghurid northern India.³⁹ Here the word *baghtāq* or *baghlāq* may have indicated a form of horse armor,⁴⁰ or horse accoutrements in general, though this Persian term could also mean a form of headgear for a man. Perhaps in this context it referred to a covering or armor for the horse’s head—namely a chamfron. Another term used by Persian writers in Islamic northern India during the thir-

³⁴ Ayalon, “Notes on the Furūsiyya,” 48.

³⁵ Simon Digby, *War-Horse and Elephant in the Delhi Sultanate, a study of Military Supplies* (Oxford, 1971), 50–53.

³⁶ Edward McEwen, “Ādāb al-Ḥarb,” *The Islamic Quarterly* 18 (1971): 81–83.

³⁷ G. Douillet, “Furūsiyya,” *Encyclopaedia of Islam*, 2nd ed., 2:952–54.

³⁸ Emel Esin, “The Horse in Turkic Art,” *Central Asiatic Journal* 10 (1965): 198.

³⁹ Claude Cahen, “Les armes chez les Ghūrīdes,” in “Un Traité d’armurerie composé pour Saladin,” *Bulletin d’Etudes Orientales* 12 (1947–48): 60; Mubārakshāh, *Ādāb al-ḥarb*, 425.

⁴⁰ Ibid.



teenth century was *par dum*, which clearly meant a crupper or that piece of horse armor that protected the animal's rump.⁴¹

There were various terms for the chamfron or piece of armor protecting a horse's head but whether they indicated anything more specific remains unclear. One such term in Arabic was *barāqī*,⁴² while another used in the fourteenth-century Mamluk Sultanate was probably *sarī*.⁴³ The term *tishtanīyah*, as used in al-Andalus, is normally translated as a form of helmet but it may actually have meant or have included the chamfron, having stemmed from the medieval Latin word *testinia* which was used for such a chamfron in the tenth- and eleventh-century Iberian Peninsula.⁴⁴

Separate terms were used for non-protective, usually decorative caparisons and the particularly large horse cloths which were used to denote the rider's high status. These included *kabush*, which is usually translated as a horse cloth.⁴⁵ In fact, it was almost certainly the same as the *kanbush* of the thirteenth- and fourteenth-century Mamluk Sultanate, normally translated as a caparison or non-protective covering for a horse.⁴⁶ The *ghashī* or horse cover placed "over the saddle" as a sign of high rank or status, was used in the twelfth- and thirteenth-century Yemen.⁴⁷ Meanwhile the term *ādrām* was used for an ordinary saddle cloth in thirteenth-century northern India.⁴⁸ A little later and at the westernmost extreme of the medieval Islamic world in Marinid Morocco, a *burqu* saddle cloth seems to have been the same as the Middle Eastern *ṭiyāb al-surūj*, as both were embroidered or otherwise decorated and used as a caparison or horse cloth during the early fourteenth century.⁴⁹ Here it is important to note that there is no real evidence that the caparisons with floral design, placed upon the Marinid sultan's horse, were protective. Similarly, the word *shalīl* could refer to a striped

⁴¹Mubārakshāh, *Ādāb al-ḥarb*, 332–33.

⁴²Douillet, "Furūsiyya," 952–54.

⁴³Awsī al-Anṣārī, "Glossary," in *A Muslim Manual of War; being Tafrīj al-Kurūb fī Tadbīr al-Ḥurūb*, ed. and trans. G. T. Scanlon (Cairo, 1961), 128.

⁴⁴F. Gabrieli, "Gli Arabi in Spagna e in Italia," in *Ordinamenti Militari in Occidente nell'alto Medioevo*, Settimane di Studio del Centro Italiano di Studi sull'alto Medioevo 15/2 (Spoleto, 1968), 709–11.

⁴⁵Douillet, "Furūsiyya," 952–54.

⁴⁶Leo Ary Mayer, *Mamluk Costume* (Geneva, 1956), 15, 58, 76.

⁴⁷Muḥammad Ibn Ḥatīm, *The Ayyūbids and Early Rasūlids in the Yemen [567–694/1173–1295]*, trans. G. Rex Smith, Gibb Memorial Series 26 (London, 1978), 2:126.

⁴⁸Mubārakshāh, *Ādāb al-ḥarb*, 332–33.

⁴⁹Marius Canard, "Les Relations entre les Mérinides et les Mamelouks au XIVe siècle," *Annales de l'Institut Orientales de la Faculté des Lettres d'Alger* 5 (1939–41): 55–58.



caparison for a horse,⁵⁰ and also for a garment worn beneath a man's armor in fourteenth-century Marinid Morocco.⁵¹

Such an abundance of occasionally specific terminology must surely indicate that horse armors, as well as other forms of non-protective horse coverings, were far from unusual in the medieval Islamic world. In fact, the written sources provide stronger evidence than the infrequent pictorial representations and uncertain archaeological record. All this begs the question of where, when, and why horse armor was adopted by Muslim cavalry, but not by Western European mounted warriors until significantly later. The earliest widespread use of horse armor appears to have been in Inner Asia, perhaps more specifically in Khwārazm.⁵² It then spread, along with so many other advances in horse harness and cavalry practice, from Central Asia to neighboring China, Iran, and elsewhere, eventually including the Middle East and Europe.

Here it is worth noting that the bronze and iron scale horse armors found during the excavation of the late third-century Roman frontier fortress of Dura Europos in Syria are likely to have been either of Parthian origin, or at least to have reflected strong Parthian-Iranian influence upon local cavalry forces in Roman Syria. Early pictorial representations of horse armor in Central and Inner Asia, though clearly showing substantial forms of such defenses, are usually too crude to prove the existence of more specific items such as head-protecting chamfrons. However, Chinese art sometimes steps into the breach by showing Uighur Turkish cavalry horses with armors consisting of several separate sheets plus clearly delineated chamfrons.⁵³

Pictorial sources from pre-Islamic Iran can be equally informative, while early Arab chronicles confirm the presence of horse armor in those Sassanian armies which were defeated during the first decades of Islamic history.⁵⁴ Given the profound impact that the Sassanian military heritage had upon early Islamic armies, it is not surprising to soon find comparable cavalry in Muslim forces.⁵⁵ On the other hand the most dramatic and detailed late Sassanian representation of horse armor, the massive high relief rock-cut carving of a presumed ruler at Tāq-i Bustān (photograph 18), does not appear to have been typical of the tradition so

⁵⁰Douillet, "Furūsiyya," 952–54.

⁵¹Canard, "Les Relations," 55–58.

⁵²J. W. Eadie, "The Development of Roman Mailed Cavalry," *Journal of Roman Studies* 57 (1967): 161–62.

⁵³Esin, "The Horse in Turkic Art," 198.

⁵⁴Al-Ṭabarī, *Chronique de Tabari*, trans. M. H. Zotenberg (Paris, 1867), 2:228. For a less clear-cut reference, see al-Balādhurī, *Kitāb Futūḥ al-buldān*, 135; al-Balādhurī, *The Origins of the Islamic State*, trans. P. K. Hitti and F. C. Murgotten, 1:403.

⁵⁵Claude Cahen, "Djaysh," in *Encyclopaedia of Islam*, 2nd ed., 2:504–9.



rapidly adopted by the Muslim-Arab conquerors of Iran. The Tāq-i Bustān horse armor covered only the front part of the animal and thus recalls the form of horse armor that Byzantine cavalry supposedly copied from their Avar foes in eastern and central Europe. Thus, paradoxically, the Tāq-i Bustān rider may himself be a clearer reflection of Byzantine-Avar technological influence than of the Iranian-Sassanian military technology which influenced subsequent Islamic armies.

The position becomes clearer during the Umayyad period from the mid-seventh to mid-eighth centuries. *Tijfāf* soft armor, presumably for men and horses, was worn by *khayl mujaffafah* cavalry but, when worn by a man on foot, was described as being cumbersome and easily penetrated by arrows shot from close range.⁵⁶ The largely Arab Khārajī rebels who caused such problems for the Umayyads and their successors could field numerous such *mujaffafah* armored cavalry even in the late seventh century.⁵⁷ By the early eighth century the sources make it clearer that this form of soft armor was for the horses rather than their riders,⁵⁸ with one reference specifically stating that *mujaffaf* cavalry feared infantry archers using heavy *nabl* armor-piercing arrows.⁵⁹ Perhaps the most interesting such reference dates from the mid-eighth century and described “gilded” *tijfāf* on a light colored horse.⁶⁰ This must surely indicate that the horse armor in question, even if it still incorporated some “soft” element such as felt, also had harder surfaces which would be gilded—perhaps lamellae as seen at Tāq-i Bustān or like the scale-covered horse armors from Dura Europos. It need not have been of metal, of course, but could consist of hardened leather.

Given the growing wealth and military sophistication of Islamic armies under the Abbasid caliphate, it should not be surprising to find references to five hundred horses parading with what seems to be “long” horse armor as well as brocade saddlecloths in the early tenth century.⁶¹ Around the same time, Persian sources in the eastern regions of the Islamic world start to use the term *bargustuwān* for horse armor.⁶² A decade or so earlier the Byzantine emperor Leo VI (886–912), in Constitution 18 of his *Taktika* book of military advice, recorded that the horses of

⁵⁶Nicolaus Fries, *Das Heereswesen der Araber zur Zeit der Omayyaden Nach Tabarī* (Tübingen, 1921), 42, 61.

⁵⁷Al-Ṭabarī, *Tārīkh al-rusul wa-al-mulūk*, ed. DeGoeje (Leiden, 1879–1901), 2:958.

⁵⁸*Ibid.*, 1406, 1517, 1704.

⁵⁹*Ibid.*, 1407.

⁶⁰*Ibid.*, 1537.

⁶¹A. A. Vasiliev, *Byzance et les Arabes* (Brussels, 1950), 2:76.

⁶²Notably by Balʿamī in his translation of al-Ṭabarī’s massive history; A. D. H. Bivar, “Cavalry Equipment and Tactics on the Euphrates Frontier,” *Dumbarton Oaks Papers* 26 (1972): 291.



Turkish leaders “are covered in front with iron and quilted material.”⁶³ Leo may, however, have been conflating the Magyars of eastern Europe and the Turks of the western steppes. Furthermore, the horse armor he describes seems to be the front-only form previously associated with the Avars and also seen on the Tāq-i Bustān rock-cut statue.

While the Byzantine Emperor Leo VI makes no mention of horse armor amongst the Muslims, only a generation later the elite *ghulāms* or *mamlūks* of the Ḥamdanid ruler of northern Syria, Sayf al-Dawlah (r. 944–67), did ride armored horses just like those of their Byzantine opponents.⁶⁴ Another source notes that armor for men and for horses was being manufactured in the fortified Muslim frontier city of Tarsus immediately prior to its conquest by the Byzantines in 965.⁶⁵ Ibn al-Qalānisi, writing many years later but drawing upon contemporary sources, made clear the effectiveness of professional *ghulam* cavalry, armed with spears, swords, or maces and riding horses with *tijfāf* armor in late tenth-century Syria.⁶⁶ Such equipment, plus proper training, enabled these largely Turkish soldiers to ride down opposing Fatimid infantry and break their formations.⁶⁷ Almost more interesting was Ibn al-Qalānisi’s reference to the horse armor used by the leader of these freebooting mercenaries, Alftēgīn (Alptekīn), which he described as being *tijāfif min marāyah*, “*tijfāf* with mirrors.”⁶⁸ The armor was thus almost certainly made of metallic lamellar or, less probably, metallic scale construction. These varied horse armors were significant, and abundant, enough for Alftēgīn to give twenty armored or caparisoned horses to the Byzantine Emperor as part of a peace agreement.⁶⁹

Before turning to Alftēgīn’s Fatimid rivals in Syria and Egypt, reference should be made to the eastern Iranian regions where Firdawsī wrote his epic *Shāhnāmah* at the end of the tenth century. This massive text makes several mentions of *bargustuwān*, though on one occasion it refers to elephant rather than horse armor. Firdawsī also repeated the legend that the first horse armor had been made

⁶³Leo VI, *The Taktika of Leo VI, Text, Translation, and Commentary*, ed. and trans. G .T. Dennis (Washington, 2010), 455.

⁶⁴Vasiliev, *Byzance et les Arabes*, 2:333.

⁶⁵Marius Canard, “Quelques Observations sur l’introduction géographique de la Bughyat at’Taleb de Kamāl ad-Dīn ibn al-‘Adīm d’Aleḥ,” *Annales de l’Institut Orientales de la Faculté des Lettres d’Alger* 15 (1957): 49.

⁶⁶Ibn al-Qalānisi, *Dhayl Tārīkh Dimashq: History of Damascus*, ed. H .F. Amedroz (Beirut, 1908), 14–15.

⁶⁷Ibn al-Qalānisi, “Continuation of the History of Damascus” in *Historiens Arabes*, trans. J. Sauvaget (Paris, 1946), 86–87.

⁶⁸Ibn al-Qalānisi, *Dhayl Tārīkh Dimashq*, 18; idem, “Continuation of the History,” 91.

⁶⁹Marius Canard, “Les Relations Politiques et Sociales entre Byzance et les Arabes,” *Dumbarton Oaks Papers* 18 (1964): 55.



by the ancient mythological Persian ruler Jamshīd,⁷⁰ whom Firdawsī presented as the fourth ruler of the world and inventor of many things for the benefit of mankind. Elsewhere in the *Shāhnāmah*, *bargustuwān* horse armor covered everything except the animal's eyes but could be cut or pierced with a sword to kill the horse. Elsewhere in this epic, *bargustuwān* was a form of soft armor or padding worn by men who were also protected by a *jawshan* lamellar cuirass.

There is no evidence that Fatimid cavalry used horse armor during the rise and early conquests of this Shi'i caliphal dynasty. It was then very clearly adopted for at least a small, heavily-armored elite of Fatimid cavalry after 991. However, that was almost a generation after Fatimid armies suffered an embarrassing setback at the hands of Alftegin's Turkish *ghulām* adventurers in Syria.⁷¹ Almost at once, mention was made of the gilded horse armors introduced into Egypt, perhaps primarily for parade purposes, by the Fatimid caliph al-ʿAzīz (975–96).⁷²

Thereafter, mention of horse armor becomes more widespread within the Islamic world, though it always remained the equipment of a specialized and rarely numerous elite. Even the Central Asian Shi'i traveler and writer Nāṣir-i Khusraw's claim that every horse in one part of an important Fatimid parade in Egypt early in the eleventh century was "covered" by a *zirhī* mail or *jawshan* lamellar armor needs to be taken with a piece of salt. Supposedly a helmet was "placed on the pommel of every saddle," though this may have been a confused reference to the neck-protecting crinet and the head-protecting chamfron.⁷³ Nāṣir-i Khusraw was, of course, a pious supporter and indeed propagandist for the Shi'i caliphate. About a century later Ibn al-Ṭuwayr described a comparable Fatimid process but makes no mention of horse armor.⁷⁴

By the mid-eleventh century some Byzantine cavalry were riding fully mailed horses (figure 113),⁷⁵ and a little over a century later some of the cavalry whom Saladin sent to raid the Saffuriyah region of the Crusader Kingdom of Jerusalem were described as *mudajjaj*, which is normally translated as "heavily armored" or

⁷⁰Firdawsī, *Shāhnāmah*, ed. J. A. Vullers (Leiden, 1877–80), 1:23; Firdawsī, *The Shāhnāma of Firdawsī*, trans. A. G. and E. Warner (London, 1905), 1:132.

⁷¹Beshir Ibrahim Beshir, "The Fatimid Caliphate 386/996–487/1094" (Ph.D. diss., London University, 1970), 71.

⁷²Stanley Lane-Poole, *The Story of Cairo* (London, 1902), 134.

⁷³Nāṣir-i Khusraw, *Sefer Nameh: Relation du Voyage de Nassiri Khosrau*, ed. and trans. G. Shefer (Paris, 1881), 137 (English) and 46 (Persian); Beshir, "The Fatimid Caliphate," 67–70.

⁷⁴Marius Canard, "La Procession du Nouvel An chez les Fatimides," *Annales de l'Institut Orientales de la Faculté des Lettres d'Alger* 10 (1952): 364–98.

⁷⁵Michael Psellus, *Fourteen Byzantine Rulers*, trans. E. R. A. Sewter (London, 1966), 211.



“slow walking.”⁷⁶ A decade or so later the Khwārazmshāh sent an army against the invading Kara Khitai on the Central Asian frontier of Islam that reportedly included large numbers of armored cavalry on armored horses, at least according to a later chronicler who was relying upon much earlier sources.⁷⁷

The indigenous tradition of horse armor seen in parts of medieval Hindu India may have been a local development of a form harking back to the influence of pre-Islamic Sassanian Iran. Otherwise, the first evidence for horse armor in Islamic northern India seems to indicate a technology introduced by recent Turco-Muslim conquerors. Thus the horse armor used by Ghurid forces while invading India in the twelfth century largely seems to have been of leather or quilted construction, though perhaps including some metal elements.⁷⁸

There can be little doubt that the conquering Mongols had a profound impact upon horse armor in the eastern Islamic regions, and of the Middle East. They clearly made abundant use of horse armors, probably to a greater extent than any of their Islamic foes. Nevertheless, the Mongols’ initially acute shortage of iron meant that the great majority of such protections were made of leather or raw-hide lamellae,⁷⁹ or of a system of laminated and hooped leather elements which was probably introduced to the Middle East by the Mongols.

The Mamluk Sultanate emerged in Egypt and then in Syria some decades after the making of the Costa candlestick. Nevertheless, the use of horse armor within the early Mamluk Sultanate’s armies might shed light on the situation a generation or so earlier. During, or shortly after, the period of Sultan Baybars I (r. 1260–77) some sources recorded the use of *bargustuwān* horse armor “made of *jawshan*”—in other words being of lamellar construction. This presumably means that the term *bargustuwān* now referred to horse armor in general rather than specifically felt or quilted manufacture. Such protections were reserved for the horses of elite cavalry. Nevertheless, there is still an element of doubt hanging over such evidence because the surviving versions of these sources may have had later terminology inserted at a time when such terms had lost their original or specific meanings.⁸⁰

⁷⁶ Imād al-Dīn al-Kātib al-Iṣfahānī, *Conquête de la Syrie et de la Palestine*, ed. Le Comte Carlo de Landberg (Leiden, 1888), 14; idem, *Al-Fath al-Qussī fī al-Fath al-Qudsī: Conquête de la Syrie et de la Palestine par Saladin*, trans. H. Massé (Paris, 1972), 15.

⁷⁷ Mawlānā Minhāj al-Dīn, *Tabakāt-i Nāsiri: A General History of the Muhammadan Dynasties of Asia*, trans. H. G. Raverty (London, 1881), 262.

⁷⁸ Ibid., 464–65.

⁷⁹ H. Stocklein, “Arms and Armour,” in *A Survey of Persian Art*, ed. A. U. Pope (London, 1939), 3:2558.

⁸⁰ Al-Qāḍī Muḥyī al-Dīn Ibn ‘Abd al-Zāhir, *Baybars I of Egypt*, trans. S. F. Sadeque (Oxford, 1956), *passim*.



In contrast the *Kitāb Nihāyat al-suʿl* can be seen as a reliable source, though it unfortunately assumes a great deal of knowledge on the part of its reader. For example, this early Mamluk *furūsiyah* manual uses an otherwise unknown Arabic word, *b-r-dh-n-b*, appearing without its short vowels, in the context of horse armor. This must surely be the crupper of a horse armor, called *par dum* in Persian or *barzanab* or *bardhanab* in some other sources.⁸¹ Elsewhere, the question is asked: “What about the horse armors (*tijāfif*, plural of *tijāf*) and the way in which the horse is facing and the bells (*ajrās*, plural of *jaras*),” when such items of the horse harness are not in use but liable to be needed at short notice. In reply the *Nihāyat al-suʿl* states: “The horse armor should be [kept] under the [horse’s] saddle, and placed in front of the horse with its bridle, and the bells hanging by its mouth.”⁸²

The reference to *ajrās* “bells” (normally of the small spherical type) remains something of a mystery although the context strongly suggests that they form part of the bridle or bit. It seems unlikely that these *ajrās* were simply decorative, since they are given prominence in a military training text which is otherwise focused upon practical matters. This term had been used in the context of military horse-harness since at least the early ninth century, when al-Jāḥiẓ, in his *Manāqib al-Turk*, quoted the Khurasanis (troops of Arab origin long resident in eastern Iran) as taking particular pride in their use of such “bells.” These, by implication, were less characteristic of other troops in the Abbasid army. The small spherical bells that were found during archaeological excavations at the medieval Islamic city of Nīshāpūr may indeed have been harness decorations. Similar bells found in medieval Central Asian grave sites were almost certainly such harness decorations. Meanwhile the many small decorative elements shown on horse harnesses in stylized early Islamic art could be interpreted in the same way, while spherical bells were clearly attached to horse harness in more realistic Coptic- and Byzantine-influenced art in early medieval Christian Nubia.

Yet none of this would explain why the ninth-century Abbasid Khurasanis and the author of the Mamluk *Nihāyat al-suʿl* placed such emphasis on these *ajrās* unless the word currently referred to an entire decorated military bridle and perhaps its associated decorative collars. Another meaning of the Arabic verb *ja-ras* indicates the making of a low or soft sound. The somewhat similar Persian word *charist* meant to gnash or grind the teeth. Given the tendency for the Arabs to slightly modify or indeed to play with the meanings of words adopted from other languages, especially from Persian, might the *ajrās* in both al-Jāḥiẓ and the *Nihāyat al-suʿl* refer to a specific type of bit and bridle which not only jangled

⁸¹Lutful-Huq, “A Critical Edition of *Nihayat al Suʿl*,” 143.

⁸²Lutful-Huq, “A Critical Edition of *Nihayat al Suʿl*,” 13, 319; Nicolle, “The Reality of Mamluk Warfare,” 80.



when moved but tended to make the horse “chomp at the bit?” Might it thus refer to the fully developed curb bit which became a feature of cavalry equipment in the medieval Islamic world (figures 1–6, 8, 46–50, 77a–b, 83, 86, 94, 95, 101, 110, 114, 116, 118, 122 a and c, 124, 125a–d, 126a–b, 127, 136, 138a–c, 145a–b, 146, 148, 157, 158 [on a mule], 159b, 163b, 165, 172, 179, 181a and c, 182a–b, and 183), subsequently in Byzantium (figures 105, 109, and 113), and subsequently in Western Europe (figures 102a, 129, and 131)? Here it is worth noting that such bits were considerably less popular amongst the nomadic peoples of Central and Inner Asia.

Unfortunately there is no real evidence that this was the case, and the Arabic terminology used for the curb bit and its various elements included nothing like the words *jaras* or *ajrās*.⁸³ Mr. Said Hunaidi, who has already helped me understand various aspects of medieval *furūsīyah*, replied to an urgent request concerning the possible use of *jaras* in the context of horse harness, and for clarification of medieval Arabic terminology of the curb bit (Appendix 4). He pointed out that the *jaras* was, and still is, a small spherical metal bell that was used most commonly on the horse and camel harness. For horses it was sometimes used on bridles but more commonly on reins or breast or crupper straps, though not on saddle or girth straps. One of the earliest Arab-Islamic references to various parts of a horse's bit strongly suggests that the snaffle rather than the curb bit was used by the Arabs at the time of the Prophet Muḥammad. This was when Abū al-Haytham Ibn Tayyāhān, the representative of the Banū 'Abd al-Ashal tribe, was in negotiations with the Prophet. Apparently emphasizing the importance of his position, and perhaps also the constraints under which he was speaking, Abū al-Haytham said: “I am amongst my people [the Banū 'Abd al-Ashal] in a position like the place of the *fa*'s in the *qayqabū*” (see Appendix 4 for these technical terms).⁸⁴

All the sources agree that mail hauberk was the primary form of armor used in the Islamic world until the fourteenth century. It had, of course, also been used by three technologically important pre-Islamic civilizations: Romano-Byzantine, Sassanian Iranian, and Turco-Soghdian Central Asian (photographs 18, 32, and 57). It had similarly been mentioned frequently in pre- or early Islamic Arab poetry, and was often illustrated in subsequent centuries (photograph 54; figures 89, 93, 94, 99, perhaps 105, 106, 127, 132b, 143, 150a, c, and probably e, 156a, 167, 177a–b, 183, and 184).

Only one horseman on the Costa candlestick might be wearing some form of arm protection (photograph 7; figure 4) which may perhaps be of splinted construction (for comparative material see photographs 20 and 21; figures 10a, 11a–b, 79, 84, 87a, 164c–e, 172, 178, 181a, and 185). This same figure is also the only man

⁸³Said Hunaidi, e-mail to the author, January 26, 2013.

⁸⁴Said Hunaidi, e-mail to the author, January 27, 2013.



on the Costa candlestick who is fighting with a sword. Various forms of arm defenses had been used in what would become the Islamic world since pre-Islamic times, including a remarkably sophisticated gauntlet found in a late Sassanian archaeological context. But while arm or hand protections are clearly shown in some pre-Islamic art, they remain unclear in Islamic figural art until the late fourteenth or fifteenth centuries. On the other hand, they were mentioned in early documentary sources, not least in the chronicle of al-Ṭabarī. At a very early date he refers to the *sāʿad*, which was probably a lower arm protection comparable to the later vambrace.⁸⁵ On a slightly later occasion al-Ṭabarī states that Khārājī cavalry armed with a *rumḥ* spear were protected by a *dirʿ* mail hauberk, a *mighfar* mail coif, and *sāʿad* arm defenses.⁸⁶ Although al-Jāḥiẓ, writing in the ninth century, maintained that the early Muslim Arabs did not use the *sāʿad*,⁸⁷ al-Masʿūdī specifically describes that the Khurasani cavalry attacking Baghdad early in the ninth century had the *dirʿ* mail hauberk, the *jawshan* lamellar cuirass, the *tijfāf*, either in the form of soft armor for the man or horse armor, plus the *sāʿad*.⁸⁸ The *sāʿad*, *kaff* (see below), and *dirʿ* were supposedly worn by an early, semi-mythological king of Yemen, according to Ḥasan Ibn Aḥmad al-Hamdānī writing in the tenth century.⁸⁹ Yet the *sāʿad* is rarely mentioned in the *Shāhnāmāh* at the end of that same century.⁹⁰

By the early Mamluk period the term *sāʿad* probably referred to a sort of rigid iron vambrace to protect the elbow and lower arm.⁹¹ This was seen amongst the Mongols and would soon be used in Russia, later in Europe, and of course in later medieval Persian and other Islamic art. This interpretation is almost confirmed by a statement in the *Nihāyat al-suʿl* where the *sāʿad* is described as being useful to ward off blows, and being put on in a similar manner to the *bayḍah* helmet.⁹² Furthermore, it could be laced to the *jawshan* cuirass (presumably to the form which had short sleeves) and could be untied while shooting with the bow to

⁸⁵ Al-Ṭabarī, *Tārīkh*, 2:411.

⁸⁶ Ibid., 2:998.

⁸⁷ Al-Jāḥiẓ, *Al-Bayān*, 15.

⁸⁸ Al-Masʿūdī, *Murūj al-Dhahab; Les Prairies d'Or*, vol. 6, ed. and trans. C. Barbier de Maynard and P. de Courteille (Paris, 1861–77), 6:453.

⁸⁹ Ḥasan Ibn Aḥmad al-Hamdānī, *Al-Iklīl*, vol. 8, ed. Al-Karmalī al-Baghdādī (Baghdad, 1931), 255–57.

⁹⁰ Firdawsī, *The Shāhnāmā of Firdausī*, trans. Warner, 1:301; Firdawsī, *Shāhnāmāh*, ed. J. A. Vullers, 2:13.

⁹¹ Lutful-Huq, “A Critical Edition of *Nihayat al Suʿl*,” 12, 318.

⁹² Ibid., 16, 320–21.



hang down to the hand by its straps.⁹³ The latter comment suggests that the rigid *sāʿad* vambrace was otherwise an encumbrance while shooting.

The early Mamluk *Nihāyat al-suʿl* military training manual mentions several different items of equipment for the arms and legs, in addition to separate and distinct boots and gaiters.⁹⁴ They included the *kumm ghishan* “imitation sleeve” but not the *kaff* of earlier sources. The Mamluk *kumm ghishan* was described as being made of silk brocade or thin leather, or a mixture of both, being attached to the sleeve of a *jawshan* and arm-protecting *sāʿad* while shooting. Perhaps it thus provided a smooth surface to avoid the bow-string snagging on the pieces of armor which protected the archer’s arm.⁹⁵ On the other hand, this does not sound entirely dissimilar to the *kaff* made of *ḥadīd* iron worn by a Syrian cavalryman but which was nevertheless cut off by an opponent’s sword early in the eighth century.⁹⁶ It must also surely have been the same as the *kaphi* shoulder or upper arm defenses, worn with or forming part of a mail hauberk in the Georgian poetic epic *The Man in the Panther’s Skin* by Rustaveli (1184–1216).⁹⁷

As already stated, the *kaff* was worn with a *sāʿad* arm defense and what has been interpreted as the long form of *dirʿ* mail hauberk in a tenth-century Arabic source.⁹⁸ Here the *kaff* has been translated as a gauntlet for the hand, though this particular context as well as other sources strongly suggest it was for the upper arm. Thus it may have been a form of close-fitting rerebrace or a pendant extension to the shoulder armor. Even so it should be noted that the Byzantine emperor Leo VI maintained that Saracen cavalry wore armor “in the Roman [Byzantine] manner”; this including *podopsella* and *cheiropsella*,⁹⁹ which G. T. Dennis translated as shin guards and gauntlets.¹⁰⁰ It may nevertheless be safer merely to regard them as unclear defenses for some parts of the legs and arms. Byzantine military terminology can be as difficult as that found in medieval Arabic, Persian, and Turkish texts. For example, John Haldon translated *cheiromanika* as arm guards for elite Byzantine cavalry,¹⁰¹ while P. Schreiner earlier translated *manikia* or *manikellia* as shoulder, upper arm, or elbow protection which, having been

⁹³Ibid., 21, 322.

⁹⁴Nicolle, “The Reality of Mamluk Warfare,” 80.

⁹⁵Lutful-Huq, “A Critical Edition of *Nihayat al Suʿl*,” 21, 322.

⁹⁶Al-Ṭabarī, *Tārīkh*, 2:1402.

⁹⁷Shota Rustaveli, *The Man in the Panther’s Skin*, trans. M. S. Wardrop (London, 1912), verses 426, 998, 1392.

⁹⁸Al-Hamdānī, *Al-Iklīl*, 8:255–57.

⁹⁹Leo VI, *The Taktika of Leo VI*, 476.

¹⁰⁰Ibid., 479.

¹⁰¹John Haldon, “Some Aspects of Byzantine Military Technology from the Sixth to the Tenth Centuries,” *Byzantine and Modern Greek Studies* 1 (1975): 21.



introduced by the emperor Nicephoros Phokas (r. 963–69), were made of silk and cotton. This surely meant that they were a form of padded or quilted soft armor.¹⁰²

During the thirteenth and fourteenth centuries the Turks undoubtedly used *qulluq* vambraces,¹⁰³ which almost certainly developed from the forms previously shown in Central and Inner Asian art. According to the Turkish *Book of Dede Korkut*, whose earliest surviving text dated from the late thirteenth or early fourteenth centuries, such separate arm defenses were “laced on.”¹⁰⁴ However, the Persian term *bāzūband*, which came to be used for vambraces across much of the Islamic world, does not seem to have been used until many years later.

Two of the horsemen on the Costa candlestick wear what appear to be close-fitting rounded helmets or hats (photographs 3 and 5; figures 3 and 5). The normal Arabic term for the rounded helmet was *bayḍah* (literally “egg”) and was in common usage from the earliest Islamic written sources. Generally speaking the term *bayḍah* is also assumed to refer to a helmet of one-piece construction, several of which survive in the archaeological record (photograph 22; figures 12 to 15). This in turn strengthens a distinction made in some sources between those wearing round helmets and those wearing pointed ones of presumably segmented construction. Of course the latter could simply be pointed or have some sort of finial or spike at top (figure 16). Rounded helmets and hats are common in the pictorial record (figures 85 [a hat], 126j–l, 126o–p, 132b, 135, 138b–c, 141a, 151; and 163a) but tended to disappear following the Mongol invasions of the thirteenth century. Thereafter helmets of clearly one-piece construction had some sort of point (photograph 23).

Two horsemen on the Costa candlestick wear what appear to be brimmed helmets (photographs 7 and 12; figures 4 and 9) though in the first case the headgear may better be interpreted as a fur *sharbush* (see below). Such headgears have sometimes been described as a sun hat because of their shape, but given this example’s association with the best surviving fragment of a face-protecting mail aventail on the Costa candlestick, it seems unlikely to have been a non-protective hat. No specific Arabic term seems to relate to such a style of helmet, which may simply have been regarded as another form of *khūd*, *khūdh*, or *khūdhah*. A large number of comparable brimmed helmets or hard hats have recently come to light in Syria, in twelfth- to fourteenth-century archaeological contexts. Some of the

¹⁰²P. Schreiner, “Zur Ausrüstung des Kriegers in Byzanz, dem Kiever Russland und Nordeuropa nach bildlichen und literarischen Quellen,” in *Les Pays du Nord et Byzance: Actes du colloque nordique et internationale de byzantinologie tenu à Upsal 20–22 avril 1979*, Acta Universitatis Upsaliensis, Figura, n.s. 19 (1981), 221–22.

¹⁰³Arif ‘Alī of Tokat, *Dānīshmandnāme: La Geste de Melik Dānīshment*, ed. and trans. I. Mēlikoff (Paris, 1960), 1:352, 2:167.

¹⁰⁴*The Book of Dede Korkut*, trans. Geoffrey Lewis (London, 1974), 165.



latter are also remarkably well preserved (figures 24 and 25). Other illustrations of brimmed helmets or hats remain rare, sometimes unclear, and problematical in medieval Islamic and closely associated art (photographs 26–29 and 39b; figures 122a–b, 174, 181a and c). In contrast, brimmed helmets would become commonplace in later medieval Europe (figures 17, 18, 129).

There is again only one horseman on the Costa candlestick who seems to wear a helmet with a neck-guard extension (photograph 5; figure 2). Like the brimmed helmet or hat, there seems to be no specific term for a helmet with a neck protection in Arabic or indeed Persian. On the other hand such helmets are notably more common in the iconographic record, though not in the archaeological one. Exceptions can be found amongst the recently uncovered “organic” helmets from Syria. The latter examples are made of layers of hardened leather or rawhide (photographs 30–31). Pictorial representations are abundant though tending to be concentrated in the Islamic heartlands of Iran and the Middle East (figures 89, 119a–c, 126a–d, f–j, l–m, o–q, 141b, 142b, 150f, 164a–b, 178, 180, 181c, and 184). Many of the neck extensions in the pictorial record are, however, likely to be cloth-covered flexible aventails.

Four figures on the Costa candlestick probably wear mail coifs or aventails, which protect their necks and a varying amount of their faces (photographs 1, 2, 4, and 9; figures 4, 5, 7, and 12). In only one case does this seem to be worn without a helmet, and must therefore be a coif which also covered the top of the wearer’s head (photograph 4; figure 1). The others are more likely to represent a mail aventail which hung curtain-like from the rim of a helmet. The Arabic term for a mail coif was *mighfar*, and it had been used since the dawn of Islam. Perhaps the mail aventail also came to be called a *mighfar*, though this is far from clear. No full mail coifs are known to survive in the archaeological record of medieval Islamic civilization. However, this form of head protection had been used throughout much of the Middle East since pre-Islamic times. During the late Roman and early Byzantine era, the full head-covering mail coif usually seems to have formed an integral part of a large mail hauberk (photograph 32), as it would continue to do in medieval Europe well into the thirteenth century. In the eastern regions of the pre- and early Islamic world the mail aventail was preferred (figures 12, 79, and 82), as it continued to be until armor finally fell out of favor (photograph 55 and probably 57; figures 88, 89, 97, 126c, e, h–j, s–u, 127, 132b, 167, 182, and 185).

None of the horsemen on the Costa candlestick wear face-covering visors attached to their helmets. Yet it is worth noting that some facial protections were used during this period, though seemingly only in regions under the strongest Turkish (figures 126p and q) and subsequently Mongol influence. This is because it was a piece of armor primarily designed to protect the wearer against arrows. Not surprisingly, it was more common amongst nomadic and other tribal peoples



of the Central and Inner Asian steppes, as well as amongst mercenaries recruited from such peoples.

The apparent lack of armor on two of the otherwise well-armed horsemen on the candlestick (photographs 8 and 12; figures 5 and 9) can be explained by the widespread use of fabric covered armor in the medieval Islamic world. This fashion went back several centuries and, judging by the pictorial evidence, was used long before specific terms such as *kazāghand* and *qarqal* came into use during the eleventh to fourteenth centuries. Surviving archaeological evidence is almost entirely from the late medieval period (photographs 33–36). Furthermore, quilted, otherwise padded, or felt “soft armors” would look essentially the same as other items of clothing in all but the most detailed and realistic of pictorial representations. Only occasionally did Islamic art go into such detail and even these few pictures could be interpreted in various ways (figures 88, 105, 150b and 150d [beneath a small lamellar cuirass]).

No less than seven of the nine figures on the Costa candlestick appear to wear lamellar or laminated armor (photographs 4–11; figures 1–8). The term *jawshan* referred to almost all forms of lamellar cuirass, though some other more specialized terms were used. The early Mamluk *Nihāyat al-suʿl* military training text mentions several kinds of mail and lamellar armors, also noting that there were occasions in which both were needed at the same time—as was, of course, frequently shown in the pictorial record. Nevertheless, this was clearly not always the case. This text adds the interesting detail that a lamellar cuirass could be joined to a mail hauberk by straps, which were themselves presumably buckled, and which could then be undone if the cuirass made movement difficult by constricting the hauberk.¹⁰⁵ Elsewhere the *Nihāyat al-suʿl* was critical of the sort of short or limited lamellar cuirass which was shown on the Costa candlestick and which had appeared more frequently in early medieval Islamic art. Indeed, the long or full lamellar cuirass would subsequently be more closely associated with the Mongols. Even so, this text did admit that the short cuirass was more suitable for a horse-archer.¹⁰⁶

Here I would like to draw attention to work in experimental archaeology undertaken by Russell Mitchell, a specialist in the making and use of armor made of leather. His work has shown that rawhide proves much more effective than leather or otherwise treated leather, especially against arrows and other thrusting weapons. It was also far superior to the mail armors upon which European warriors overwhelmingly depended from Late Roman times until the fourteenth century (of course supplemented by their use of shields). Commenting in 2003 on photographs I had taken of the multi-layered, laminated leather elements of

¹⁰⁵Nicolle, “The Reality of Mamluk Warfare,” 80.

¹⁰⁶Ibid., 82–84.



assorted cuirasses from a castle in Syria's Euphrates valley (probably al-Raḥbah), Russell Mitchell wrote: "Based on the way that the edges lay down so smoothly on those composite sheets, I am really starting to wonder if they are hardened leather, or if they are really unbleached, thin goat rawhide."¹⁰⁷

No complete medieval lamellar armor of this kind is known to have survived but fragments of cuirass as well as individual lamellae, either of iron, bronze, hardened leather, or rawhide, have been found in many archaeological contexts, mostly amongst the Turco-Mongol peoples of the Eurasian steppes but occasionally in a specifically Islamic archaeological context (figures 19a–h, 20a–b, 21, 22a–b, 23a–d, 25a–e). Lamellar cuirasses, or in some cases perhaps laminated or "hooped" cuirasses, also appear frequently in several types of late pre-Islamic and medieval Islamic art (photographs 20, 21, 28; figures 79, 82, 84, 87a, 91, 92, perhaps 93, 95, 120, 126a–c, f, g, h, s, t, v–x, 127, 150d, 164c–e, 176, 178, 180, 181c, and 185). More obvious illustrations of "hooped" armor are less common and all seem to date from after the Mongol invasions (photographs 37 to 39a–b; figure 24). Indeed it seems likely that this method of making leather or rawhide armors was introduced to the Islamic Middle East by those selfsame Mongols.¹⁰⁸

The figures on the Costa candlestick have lost too much of their inlay to be able to state whether any of them was wearing a *dirʿ* mail hauberik. Yet the written sources make abundantly clear that such hauberiks were the longest established and most basic form of metallic armor in the Islamic Middle East, as they had been for more than a century before the coming of Islam. This form of armor was known as *dirʿ* in Arabic and by the clearly related term *zirih* in Persian. Only small fragments have been uncovered by archaeologists (photograph 36; figure 26), but this type of armor clearly came in a variety of styles, with short or three-quarters or long sleeves, short or long hemmed, and often worn beneath a lamellar cuirass (photographs 18 and 32; figures 82, 87b, 89, 91–95, 99, perhaps 105, 106, 127, 132b, 143, 150a, c, and e, 156a, 161, 167, 177a–b, 183, and 184).

[To be continued]

¹⁰⁷Russell Mitchell, e-mail message to the author, August 13, 2003.

¹⁰⁸David Nicolle, "Jawshan, Cuirie and Coat-of-Plates: An Alternative Line of Development for Hardened Leather Armour", in *A Companion to Medieval Arms and Armour*, ed. David Nicolle (Woodbridge, 2002) 179–221 & pls. XIII-1 to XIII-45.



Appendix 3: The Terminology of Spears, Javelins, and Staff Weapons in the Medieval Islamic World

Despite having been studied by linguists for well over a century, the terminology of spears, javelins, and staff weapons in the medieval Islamic world remains somewhat unclear. What has not yet been achieved is a satisfactory synthesis between the written terminology, illustrations of such weapons in Islamic art, and the growing archaeological evidence.

The separation or differentiation of terminology for javelins to be thrown and staff weapons to be wielded is particularly problematic. Indeed there seems to be a surprising and even somewhat illogical overlap—illogical, at least in terms of the practical use of such weapons.

For example, the *allah* was sometimes said to be similar to the *ḥarbah*.¹⁰⁹ The *ʿanazah* was also similar to the *ḥarbah*, being a short spear with large head¹¹⁰ that could be thrown from horseback.¹¹¹ However, it sometimes had a metallic foot or blade at its base,¹¹² and sometimes had *ʿalam* streamers added to serve as a banner during the early Islamic period.¹¹³ The *ašm* was a short spear with a very long blade.¹¹⁴ The *qunṭārīyah* was almost certainly much the same as the Byzantine-Greek *kontarion* cavalry spear. The latter was considered to have a weak shaft, had traditionally been adopted by the Byzantines from the Turco-Mongol Avars of the western steppes and Central Europe, and was about 3.6 meters long.¹¹⁵ However, some sources suggest this length was for cavalry whereas an infantryman's *kontarion* should be 4.25 meters long. Also called the *doru*, it had a blade of about 25 centimeters or more.¹¹⁶

In Arabic *dhawābil* was a collective term for spears, sometimes with *dhuʿābah* tassels.¹¹⁷ *Ghābar* was an early Arabic poetic term for the typical bedouin spear

¹⁰⁹ Ali ibn ʿAbd al-Raḥmān ibn Hudhayl al-Andalusī, *La Parure des Cavaliers et l'Insigne des Preux*, trans. L. Mercier (Paris, 1924), 242–43; Friedrich Wilhelm Schwarzlose, *Die Waffen der Alten Araber* (Leipzig, 1886), 213.

¹¹⁰ Marius Canard, “Le Cérémonial Fatimite et le Cérémonial Byzantin,” *Byzantion* 21 (1951): 389; Ali ibn ʿAbd al-Raḥmān ibn Hudhayl al-Andalusī, *La Parure des Cavaliers*, 242–43.

¹¹¹ Max von Oppenheim, “Der Djerid und das Djerid-Spiel,” *Islamica* 2 (1926): 590.

¹¹² Schwarzlose, *Die Waffen*, 212.

¹¹³ George C. Miles, “Mihrāb and ʿAnazah: A Study in Early Islamic Iconography,” in *Archaeologica Orientalia in Memoriam Ernst Herzfeld*, ed. G. C. Miles (New York, 1952), 166–67.

¹¹⁴ Murḍī ibn ʿAlī ibn Murḍī al-Tarṣuṣī, “Un traité d’armurerie composé pour Saladin,” ed. and trans. Claude Cahen, *Bulletin d’Etudes Orientales* 12 (1947–48): [ed.] 112 and [tr.] 134.

¹¹⁵ François Aussaresses, *L’Armée Byzantine à la fin du VIe Siècle* (Paris, 1909), 50–53.

¹¹⁶ Haldon, “Byzantine Military Technology,” 32–33.

¹¹⁷ Imād al-Dīn al-Kātib al-Iṣfahānī, *Conquête de la Syrie*, passim; idem, *Al-Faṭḥ al-Qussī*, passim.



with a long bamboo haft.¹¹⁸ In thirteenth- and fourteenth-century al-Andalus the *khirs* was a short lance, though longer than the *ḥarbah*.¹¹⁹ In early ninth-century Iraq the *khaṭil* was supposedly an oversized spear used by the vainglorious in an attempt to frighten their foes,¹²⁰ while the *makhmūs* was a cavalry spear, apparently about five cubits long.¹²¹ The *marbūʿāt* was a medium-sized spear characteristic of *mawālī* cavalry in the ninth century¹²² whereas the *miṭrād*, originally a short spear or javelin designed to pierce armor, had supposedly not been used by the pre- or early Islamic Arabs.¹²³ By the tenth century it was used as a standard or banner by the Ikhshidid rulers of Egypt,¹²⁴ as it would also be used by the thirteenth-century Ghurids of Afghanistan and northern India.¹²⁵

According to al-Jāḥiẓ the *nīzak* or *nayzak* was a short spear which could also be thrown as a javelin. Longer than the *ʿanazah* but shorter than the *rumḥ*, it was used by *mawālī* cavalry and had a *zujj*, sharp foot or lower blade which could be thrust against a pursuer.¹²⁶ *Nīzah* remained the generic Farsi term for a spear or lance. The best *nīzah* had hafts of Indian reed, like the Arabic *rumḥ*, but this weapon could also be thrown, which must surely have differentiated it from the very long bedouin *rumḥ*. On the other hand the Persian *nīzah* came in a variety of forms, though these were normally used as thrusting weapons and could have colored pennons, as described in the *Shāhnāmah*.¹²⁷ A longer version, the *nīzah darāz*, was used by infantry and was stated to be 9 cubits long in the *Shāhnāmah*,¹²⁸ which would almost rate the weapon as a pike. A *nīzah khaṭṭī*, having a haft of the finest bamboo from the al-Khaṭṭ coastal region between Basra and Baḥrayn, was

¹¹⁸Schwarzlose, *Die Waffen*, 214–15.

¹¹⁹James T. Monroe, *Hispano-Arabic Poetry* (London, 1974), 332–33; ʿAlī ibn ʿAbd al-Raḥmān ibn Hudhayl al-Andalusī, *La Parure des Cavaliers*, 242–43.

¹²⁰Al-Jāḥiẓ, *Al-Bayān*, 21–22.

¹²¹Ibid.

¹²²Ibid.

¹²³Al-Jāḥiẓ, *Rasāʾil al-Jāḥiẓ*, ed. ʿAbd al-Salām Muḥammad Hārūn (Cairo/Baghdad, 1965), 27; idem, “Jāḥiẓ of Basra to Al-Fath ibn Khāqān on the Exploits of the Turks and the Army of the Khalifate in General,” trans. C. T. Harley-Walker, *Journal of the Royal Asiatic Society* (October 1915): 652.

¹²⁴Claude Cahen, *La Syrie du Nord à l’Époque des Croisades* (Paris, 1940), 369 and n. 3.

¹²⁵Mubārakshāh, *Ādab al-ḥarb*, 330.

¹²⁶Al-Jāḥiẓ, *Al-Bayān*, 21–22.

¹²⁷Firdawsī, *Shāhnāmah*, ed. J. A. Vullers, 2:369–70; Firdawsī, *The Shāhnāma of Firdausī*, trans. A. G. and E. Warner, 2:72.

¹²⁸Firdawsī, *Shāhnāmah*, ed. J. A. Vullers, 2:1280; Firdawsī, *The Shāhnāma of Firdausī*, trans. A. G. and E. Warner, 4:147.



recommended by the great vizier Nizām al-Mulk for both infantry and cavalry guard units at the Seljuq court.¹²⁹

From the early eighth century onwards the term *qanāh* became a general or almost generic Arab term for the spear. It included the long *qanāh* spears used by the Arab-*Khārājī* rebels and the “short and hollow” *qanāh* lances used by Turks according to al-Jāhiz in the ninth century.¹³⁰ Elsewhere, however, al-Jāhiz describes the *qanāh* of Arab cavalry as being long, solid, heavy, and shorter than the infantryman’s *qanāh*.¹³¹ He also stated that the long Arab *qanāh* had a *zujj* foot and a *sinān* blade.¹³² Far away in fourteenth-century al-Andalus, Ibn Hudhayl maintained that the *qanāh* was similar to the *rumh*.¹³³ *Sa’dah* was another word used for the lance or spear earlier in al-Andalus.¹³⁴

Back in the Middle East the *qunṭārīyah* was used by both Muslims and Crusaders during Saladin’s era.¹³⁵ Al-Tarṣūṣī, writing for Saladin himself, stated that the *qunṭārīyah* was a long spear or lance of beech, fir, or other wood, with a large, acorn-shaped blade. It was not particularly long, but was only used as a piercing rather than a cutting weapon. It was used by *Rūmī* cavalry and was “rested on the saddle” during the attack.¹³⁶ This would appear to be a slightly misunderstood reference to the couched-lance technique, characteristic of European knightly cavalry but also used by Byzantine and fully trained Muslim professional cavalry. Usāmah ibn Munqidh seemed to use the term *qunṭārīyah* interchangeably with the term *rumh* when referring to Arab cavalry in Syria,¹³⁷ but he did point out that it was the universal weapon of Crusader horsemen.¹³⁸ Others similarly agreed that it was used by Crusader cavalry.¹³⁹

In contrast the *rabā’ith*, a form of spear with a broad blade used by bedouin Arabs during the tenth century, was said to be of Syriac linguistic origin.¹⁴⁰ Yet

¹²⁹ Nizām al-Mulk, *Siyāsāt Nāmah*, ed. Sayyid ‘Abd al-Raḥmān Khalkhālī (Tehran, 1932), 67; Nizām al-Mulk, *The Book of Government of Rules for Kings: The Siyāsāt Nāma*, trans. Hubert Darke (London, 1960), 96–97.

¹³⁰ Al-Jāhiz, *Rasā’il*, 52–53; idem, “Jāhiz of Basra to Al-Fath ibn Khāqān,” 671.

¹³¹ Al-Jāhiz, *Al-Bayān*, 14.

¹³² Ibid.

¹³³ ‘Alī ibn ‘Abd al-Raḥmān ibn Hudhayl al-Andalusī, *La Parure des Cavaliers*, 242–43.

¹³⁴ Monroe, *Hispano-Arabic Poetry*, 94–95.

¹³⁵ ‘Imād al-Dīn al-Kātib al-Iṣfahānī, *Conquête de la Syrie*, passim.

¹³⁶ Murḍī ibn ‘Alī ibn Murḍī al-Tarṣūṣī, “Un traité d’armurerie,” [ed.] 113 and [tr.] 135.

¹³⁷ Ibn Munqidh, *Kitāb al-I’tibār*, 38–39, 66.

¹³⁸ Idem, 38–39 and passim.

¹³⁹ Ibn al-Qalānisi, *Dhayl Tārīkh Dimashq*, 340.

¹⁴⁰ Muḥassin ibn ‘Alī al-Tanūkhī, *The Table-Talk of a Mesopotamian Judge*, ed. and trans. D. S. Margoliouth (London, 1922), [ed.] 53 and [tr.] 58.



the term might be related to the Byzantine *riptarion*, which was a light throwing spear or javelin used by both infantry and cavalry. Unfortunately these *riptaria* were also sometimes called *akontia*, being around 2.4 meters long with a head or blade of no more than 22 centimeters.¹⁴¹

The term *zhūpīn*, *zūpīn*, or *zūbīn* was more specific. This was a two-pointed spear or javelin, originally used by Daylami infantry from the mountains of northern Iran.¹⁴² Similar in some respects to the Arab *mizrāq* but shorter than the *rumḥ*, it may have been related to a comparable weapon used in mountainous Armenia. The *zhūpīn* could be thrust as well as thrown, and could also be used on horseback. It was recorded in the hands of a *ghulām* professional soldier during one *lāʿab* training exercise in the tenth century.¹⁴³ In the *Shāhnāmāh*, however, the *zhūpīn* is only mentioned in the hands of foot soldiers. A slight variation of the term in the epic *Warqah wa-Gulshāh* poem reads as *zūbīn*, which is surely identical to the *zhūpīn* or *zūpīn* found elsewhere.¹⁴⁴

Hafted weapons with two blades, in some cases of equal sizes though usually with a larger blade at the top and a smaller blade or foot at the bottom, are relatively abundant in medieval Islamic art, including the Costa candlestick [figures 1, perhaps 2, 3, 9, 80, 81, 88, 94, perhaps 111, 134a–b, 140, 142a–b, and 168]. They may also be present in the more limited archaeological record [figures 28a–b].

¹⁴¹Haldon, "Byzantine Military Technology," 32–33.

¹⁴²C. E. Bosworth, *The Ghaznavids* (Edinburgh, 1963), 111.

¹⁴³Ibn al-Qalānisi, *Dhayl Tārīkh Dimashq*, 14.

¹⁴⁴Ayyūqī, "Le Roman de Varqe et Golšāh," verse 328.



Appendix 4: Said Hunaidi on the Terminology of Horse Bits in the Medieval Arab-Islamic World

To understand the terminology of *furūsiyah* manuscripts Said Hunaidi used Arabic-to-Arabic dictionaries, primarily *Al-Qāmūs al-Muḥīt* and *Muʿjam al-Ṣaḥḥah*. The most important original source was Abū al-Haytham ibn Tayyāhān, a poet who acted as spokesman for his people, the Banū ʿAbd al-Ashhal, during negotiations with the Prophet Muḥammad at ʿAqabah.¹⁴⁵ In a summary of his findings, Said listed the following terms, though cautioning that his answer could cause controversy: curb bit = *zimām* or *nakkilū* or *ḥakamah*; snaffle bit = *shakīmah*, which can be used with a *misṣḥal* and/or a *fāʾs* and/or lower *jaflah*. He also provided the following specific translations of the Arabic terms used in *furūsiyah* manuscripts:

fāʾs: vertical metal piece in the *shakīmah*.

ḥakamah: type of curb.

ʿidhār: something on the sides of the *misṣḥal*; I could not clearly identify it and whether it is part of a snaffle or curb but I suspect it is an addition for both.

jaflah ʿulīyah: the metal or leather which goes above the bit and around the nose.

jaflah suflīyah: the metal or leather which goes underneath the bit and around the chin.

lijām: an Arabized Persian word used to generally describe bits.

misṣḥal: round rings on the sides of the snaffle.

nakkilū: type of curb mainly referred to as a “mail [*barīd*, postal service] curb.”

niṭāq [or *mīʿzar*]: something on the sides of the *misṣḥal*; I could not clearly identify it and whether it is part of a snaffle or curb but I suspect it is an addition for both.

qayqabū: usually a type of wood used in saddle-making though it was also used to refer to metal snaffles.

shakīm: snaffle.

siḥāl: something on the sides of the *misṣḥal*; I could not clearly identify it and whether it is part of a snaffle or curb, but I suspect it is an addition for both.

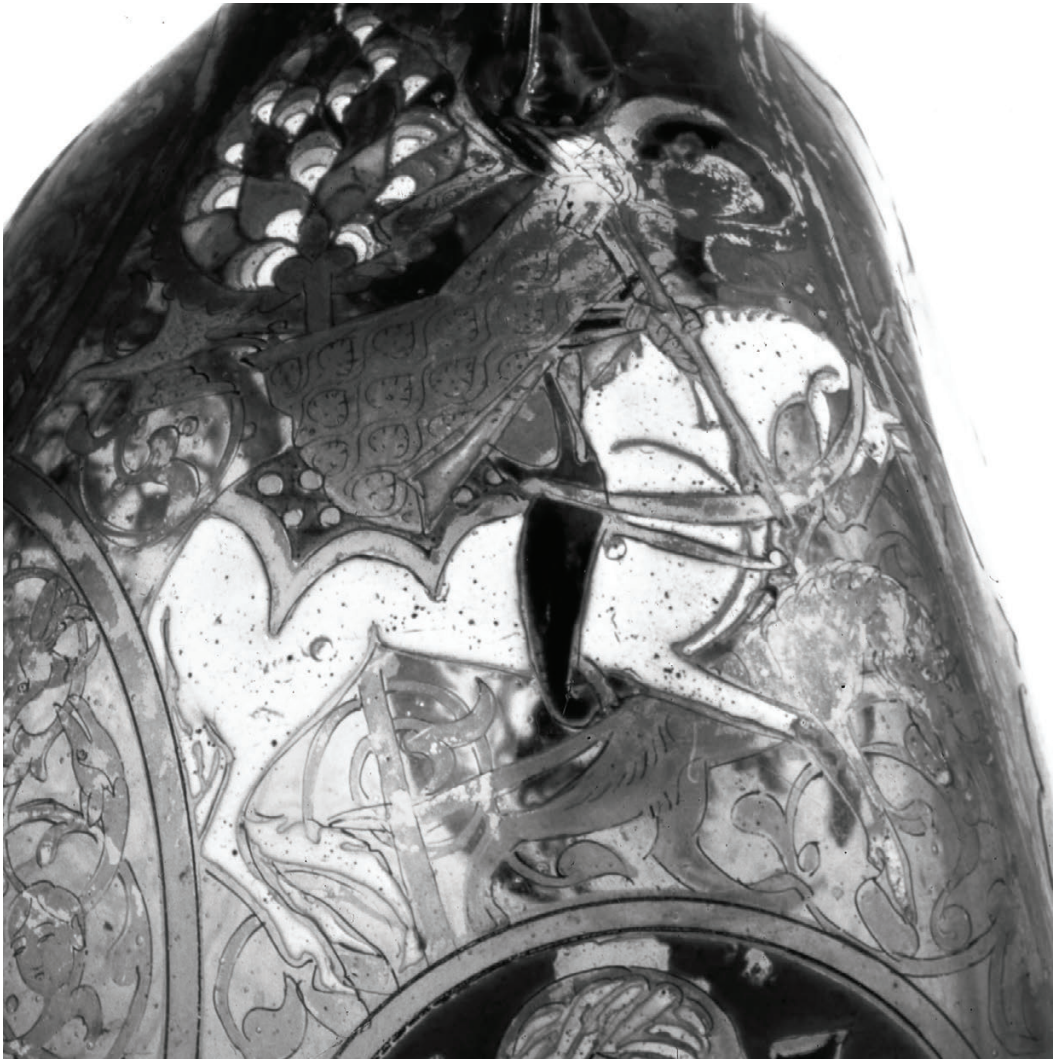
surd: something on the sides of the *misṣḥal*; I could not clearly identify it and whether it is part of a snaffle or curb but I suspect it is an addition for both.

zimām: type of curb.

zīyār: something on the sides of the *misṣḥal*; I could not clearly identify it and whether it is part of a snaffle or curb but I suspect it is an addition for both.

¹⁴⁵Muhammad Mohar Ali, *Sīrat al-Nabī and the Orientalists* (Medina, 1997), 840, 845–47.





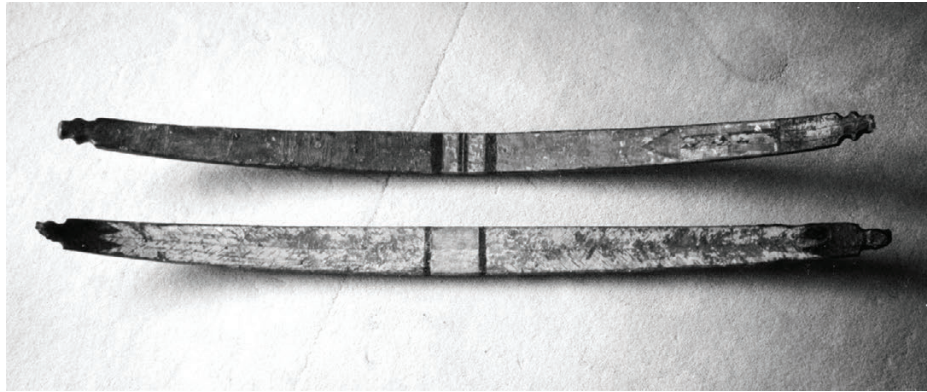
Photograph 16. Huntsman using a crossbow on horseback, large enamelled glass flask, Mamlūk Syria, 1250–60 AD (British Museum, inv. 69.1-20.3, London, UK).



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Photograph 17. Two crossbow staves of composite construction, probably from the castle of al-Rahba, Euphrates valley in north-eastern Syria, Ayyūbid or early Mamlūk, 13th or 14th centuries (Qatar Ministry of Antiquities, Doha, Qatar).



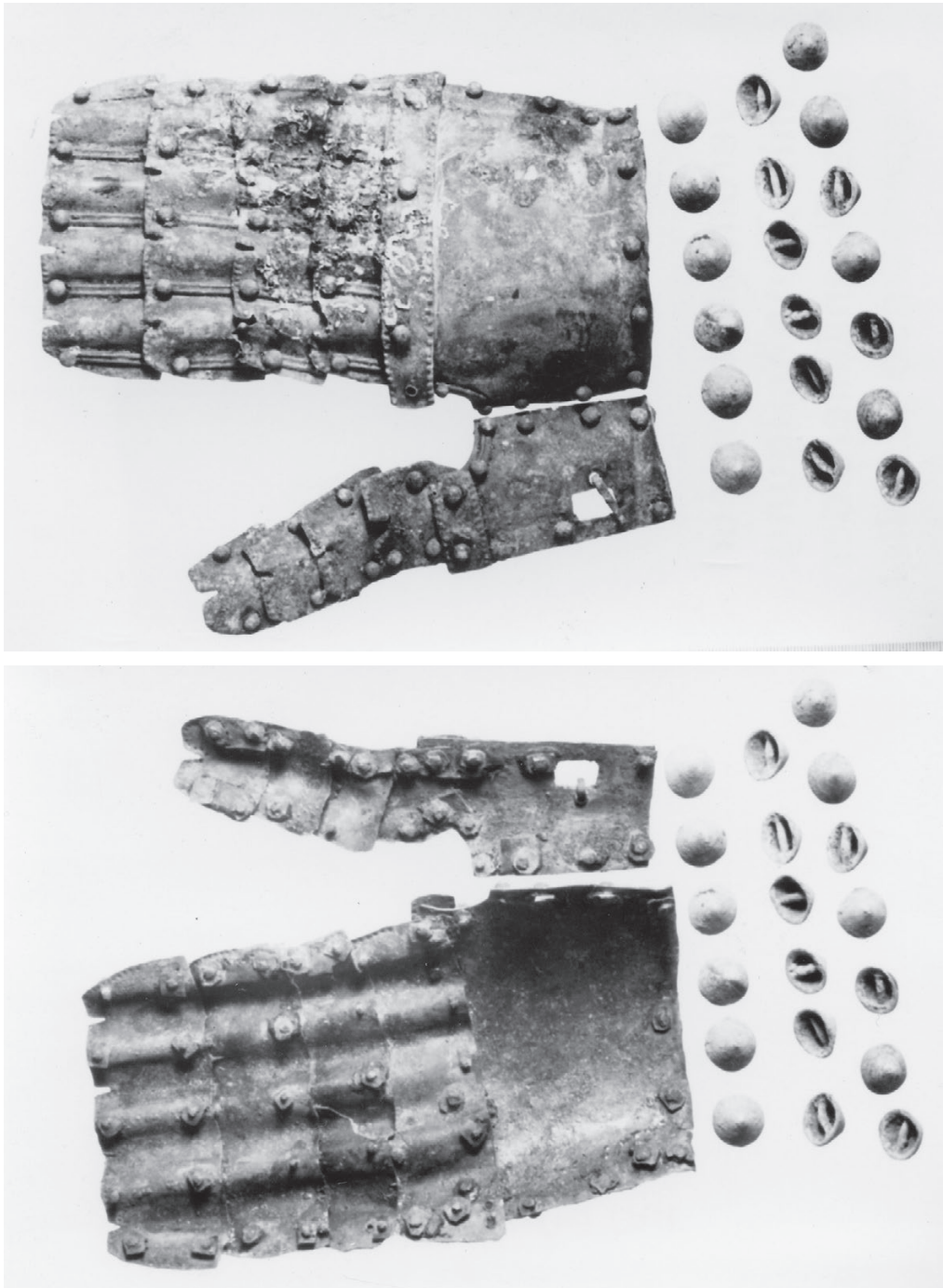
Photograph 18. High relief carving of a presumed late Sassanian ruler, Iran, early 7th century (in situ, Taq-i Bustan, Iran).



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Photographs 19a-b. Exterior [a] and interior [b] of a bronze gauntlet, late Sassanian, 6th or 7th century (inv. no. O.38824, Römisch-Germanisches Zentralmuseum, Mainz, Germany).



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Photograph 20. Picture of a fully armoured horseman on a leather-covered wooden shield found in the Castle of Mug, Sughdian Central Asia under early Islamic suzerainty, early 8th century (Hermitage Museum, St. Petersburg, Russia).

Photograph 21 (following page). Drawing of an Arab or Berber armoured cavalryman wearing lamellar armour, probably of leather judging by the remaining brown colour, a mail hauberk tinted blue and visible at his neck beneath another garment, and a turban, on a fragment of paper from Fustāt, Fāṭimid, 11th-12th centuries (Keir Collection, inv. 1.8, London).



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Photograph 22. One-piece iron helmet with decorative brow-band, North Africa, perhaps 11th-14th centuries (Museum of Islamic Studies, Raqqadah, Tunisia).



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Photograph 23. Illustration in a copy of the *Sulwān al-Mutā' fī cUdwān al-Atbāc* by Muḥammad Ibn Abi Muḥammad Ibn Ḍafar, Mamlūk Egypt, probably early 14th century (Homaizi Collection, Kuwait).



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Photographs 24–25. Exterior and interior of a helmet made of wooden blocks covered with gesso and layers of cloth, from Tower 4 of the Citadel of Damascus, early Mamlūk, mid-late 13th century (Conservation Department, inv. 2001/5, Ministry of Antiquities, Damascus, Syria).



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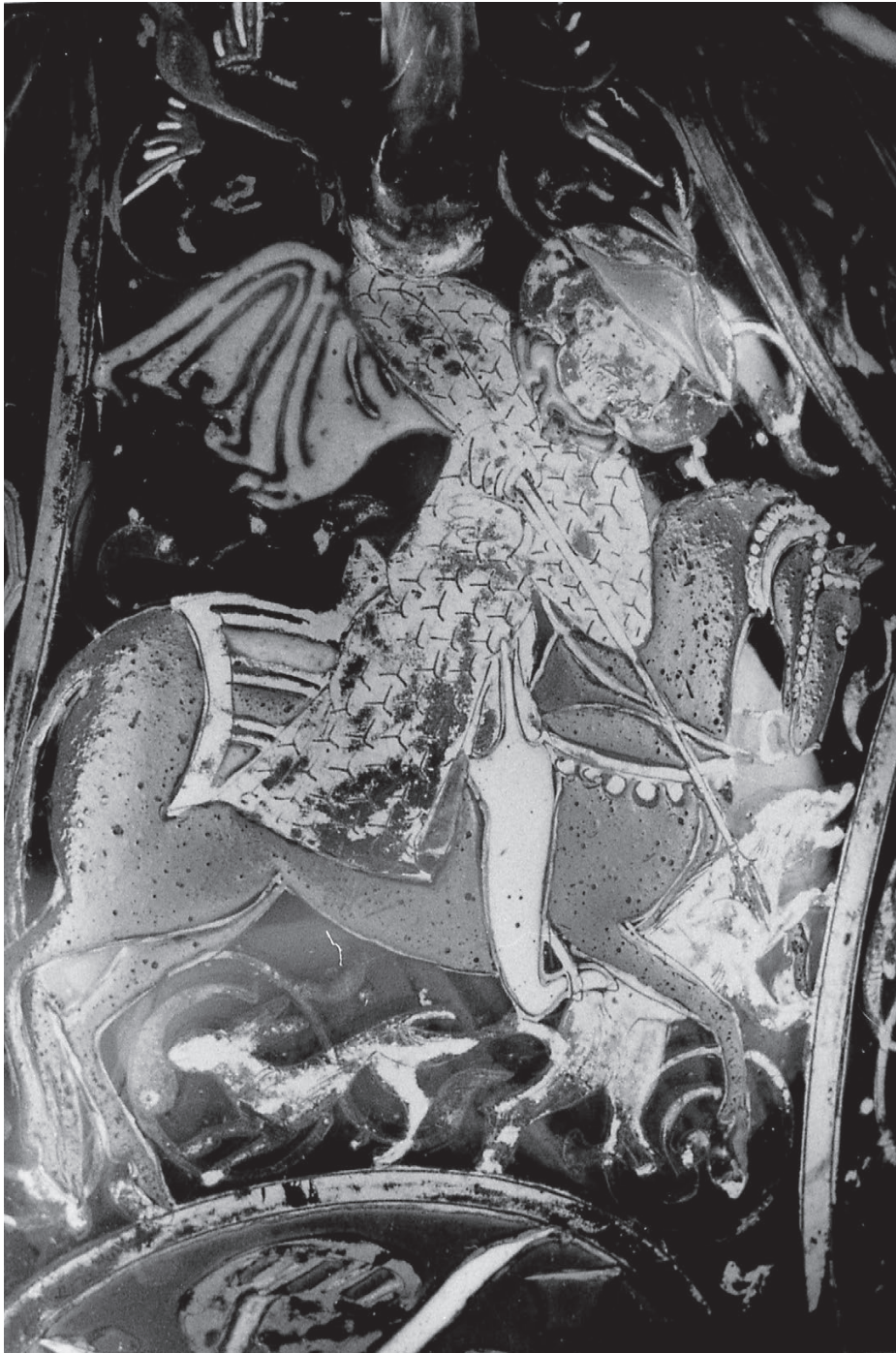
Photograph 26. Coptic Gospel, Egypt, c.1250 AD (Bibliothèque de Fels, Ms. 1, Institut Catholique, Paris, France).



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Photograph 27. Enamelled glass flask, Mamlūk Syria, 1250–60 AD (British Museum, inv. 69.1-20.3, London, UK).



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Photographs 28–29. Details from the inlaid decoration of the “Baptistère de Saint Louis”, Mamlūk, Egypt, late 13th–early 14th century (Musée du Louvre, Paris, France).



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Photographs 30–31. Exterior and interior of a helmet made of layers of hardened leather or rawhide, from Tower 4 of the Citadel of Damascus, early Mamlūk, mid-late 13th century (Conservation Department, inv. 2001/22/137, Ministry of Antiquities, Damascus, Syria).



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Photograph 32. Facsimile of a wall painting showing Philistines at the Battle of Eben-Ezer, from a synagogue in the Syro-Roman frontier fortress of Dura Europos, mid-3rd century (Yale University Art Gallery, New Haven, USA; original in the National Museum, Damascus, Syria).



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Photographs 33–34. Interior (above) and exterior (following page) of part [right thorax] of a scale-lined *qarqal* cuirass from the Citadel of Damascus, Mamlūk Syria, late 15th or early 16th century (Ministry of Antiquities, Damascus, Syria).



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Photograph 35. Fragment of quilted material and a “roll” of quilting, probably from quilted soft armour or from a saddle blanket, from the Citadel of Damascus, Mamlūk Syria, late 15th or early 16th century (Ministry of Antiquities, Damascus, Syria).



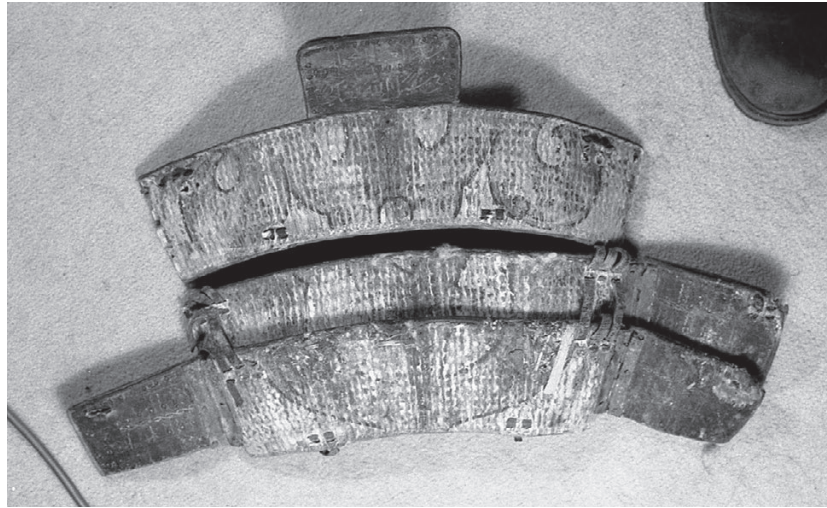
Photograph 36. Fragment of iron mail still attached to a textile covering, from the Citadel of Damascus, Mamlūk Syria, late 15th or early 16th century (Ministry of Antiquities, Damascus, Syria).



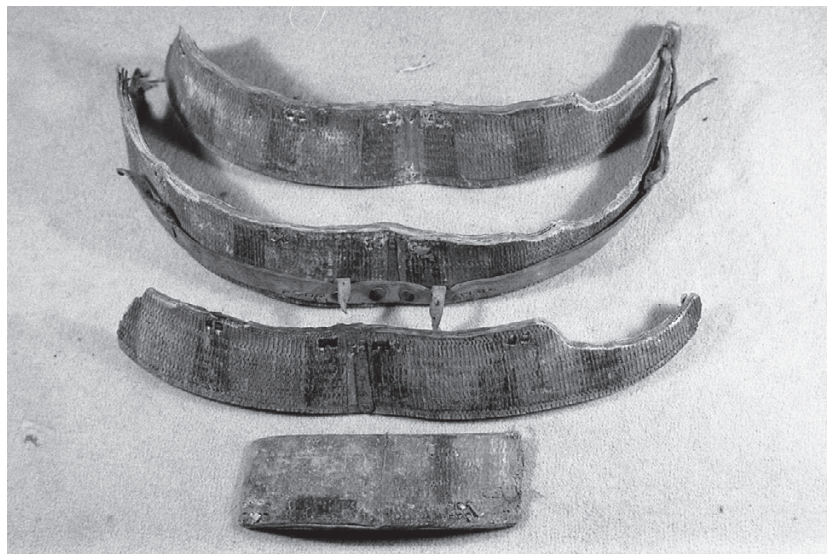
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Photograph 37. Part of a hooped or laminated cuirass covering the upper back and back of the neck, each element made of several lays of leather rawhide, early Mamlūk or captured from the Il-Khānid Mongols, probably from the castle of al-Raḥba, Syria, late 13th or 14th centuries (Qatar Ministry of Antiquities, Doha, Qatar).



Photograph 38. Part of a hooped or laminated cuirass covering the small of the back, back of the neck and rear of the waist, each element made of several lays of leather rawhide, early Mamlūk or captured from the Il-Khānid Mongols, probably from the castle of al-Raḥba, Syria, late 13th or 14th centuries (Qatar Ministry of Antiquities, Doha, Qatar).



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Photographs 39a (above) and 39b (following page). Cavalrymen and foot soldiers on an isolated manuscript page, probably Timūrid Iran or Azarbayjan, late 14th-early 15th centuries (*Fatih Albums*, Topkapi Library, Ms. Haz.2153, f. 138v, Istanbul, Turkey).



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Photograph 40. Nock of a broken arrow and a fragment of possible bowstring, from the Citadel of Damascus, Mamlūk Syria, late 15th or early 16th century (Ministry of Antiquities, Damascus, Syria).

Photograph 41. (following page) Detail of a silver-gilt plate found at Malo-Amkovskaya near Perm, probably Turco-Sughdian, perhaps made in Semirechye, 9th-10th century (Hermitage Museum, St. Petersburg, Russia).



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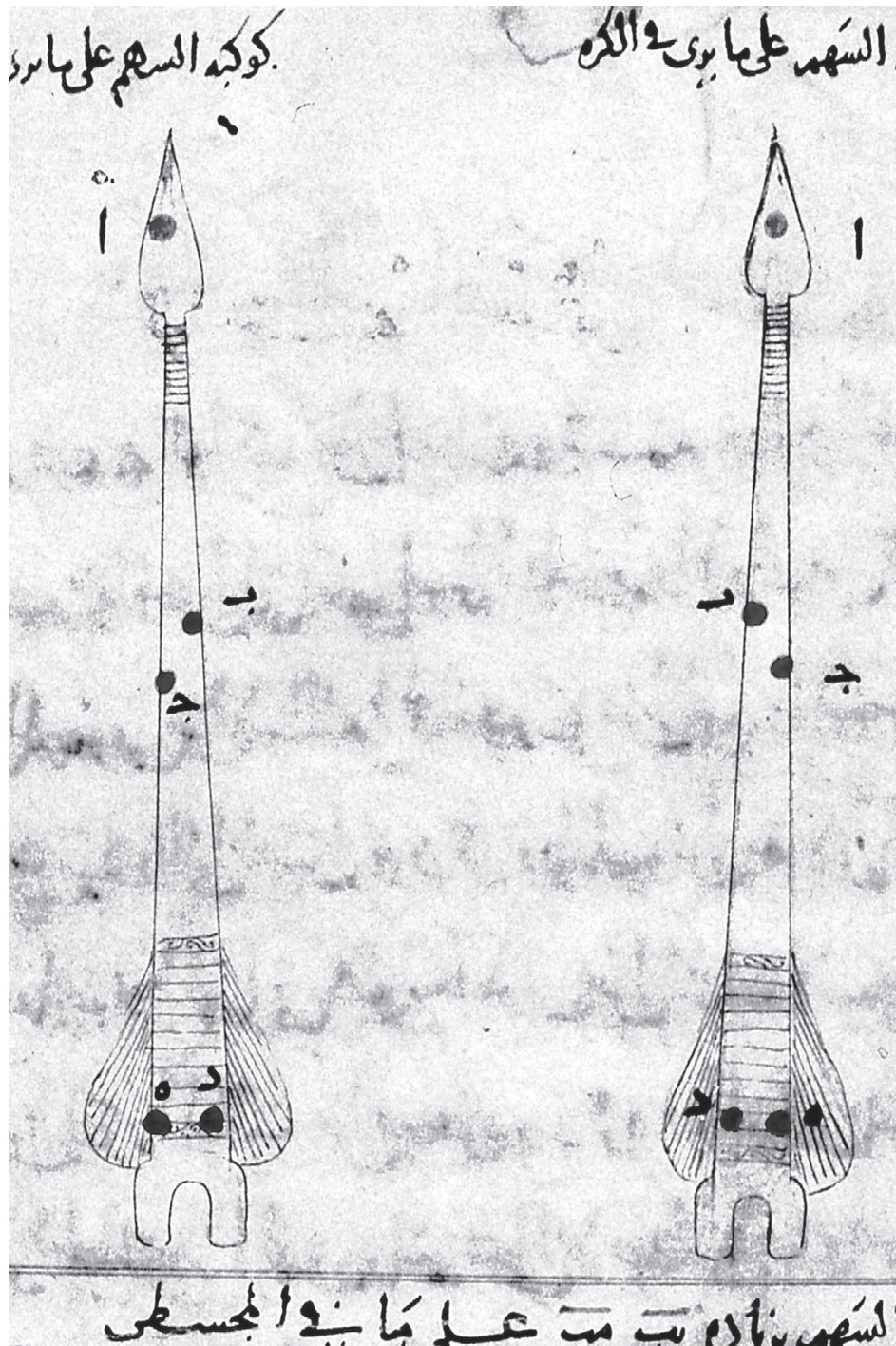
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Photograph 42. Arrows in the *Maqāl fī al-kawākib* of Abū cAlī Ibn Abī al-Ḥasan, probably Iraq 1009 AD (Bodleian Library, Ms. Marsh 144, p.140, Oxford, UK).



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Photograph 43. Composite bows, probably from the castle of al-Raḥba, Syria, early Mamlūk or captured from the Il-Khānid Mongols, late 13th or 14th centuries; note that, being unstrung, these bows curve in the opposite direction to the form they would take when strung (Qatar Ministry of Antiquities, Doha, Qatar).



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Photograph 44. Pieces of wood roughly cut to preliminary shapes to form the cores of composite bows, from Tower 4 of the Citadel of Damascus, early Mamlūk, mid-late 13th century (Conservation Department, inv. 2001/95, Ministry of Antiquities, Damascus, Syria).



Photograph 45. Archery equipment from a grave at Moschevaya Balka, north Caucasus, perhaps Alan, 8th-9th century (Hermitage Museum, St. Petersburg, Russia).



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Photograph 46. Scabbard and hilt fragments, from Tower 4 of the Citadel of Damascus, early Mamlūk, mid-late 13th century (Conservation Department, inv. 2001/unnumbered, Ministry of Antiquities, Damascus, Syria).



Photograph 47. Iron curb-bit, from the Citadel of Damascus, Mamlūk Syria, late 15th or early 16th century (Ministry of Antiquities, Damascus, Syria).



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Photograph 48. Large saddle blanket, Iran, late 19th century (Textile Museum, inv. 1977.36.64, Washington, USA).



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Photograph 49. Fragment of a stucco statuette of a horseman, showing stirrup leathers although the foot and stirrup are lost, from Khirbat al-Maḡjar [Qaṣr Hishām], Jericho, Umāyyad, early 8th century (Rockefeller Museum, East Jerusalem, Palestine).



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Photograph 50. Wall painting of a horse-archer from Qaṣr al-Ḥayr al-Ghārbī, Umayyad early 8th century (National Museum, Damascus, Syria).



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Photograph 51. Wall painting of a mounted falconer from Nishāpūr area, Sāmānīd, 10th century (Museum of Islamic Archaeology, Tehran, Iran).



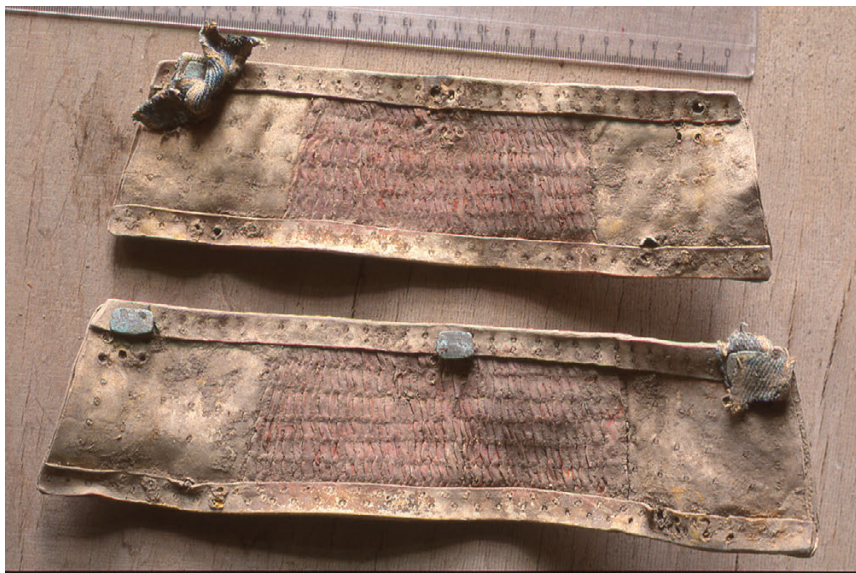
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Photograph 52. Fragment of a scale-lined armour, perhaps from a horse-armour, probably from the castle of al-Rahba, Syria, Ayyūbid or early Mamlūk, 13th or 14th centuries (Qatar Ministry of Antiquities, Doha, Qatar).



Photograph 53. Pieces of hardened leather armour with part of the strap system which joined them together, perhaps elements of a horse-armour, from the Citadel of Damascus, late Mamlūk, late 15th-early 16th centuries (Ministry of Antiquities, Damascus, Syria).



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Photograph 54. Painted paper fragment showing combat between Muslim warriors emerging from a fortress and Crusaders, Fāṭimid Egypt, early-mid-12th century (Dept. of Oriental Antiquities, inv. 1938-3-14-01, British Museum, London, UK).



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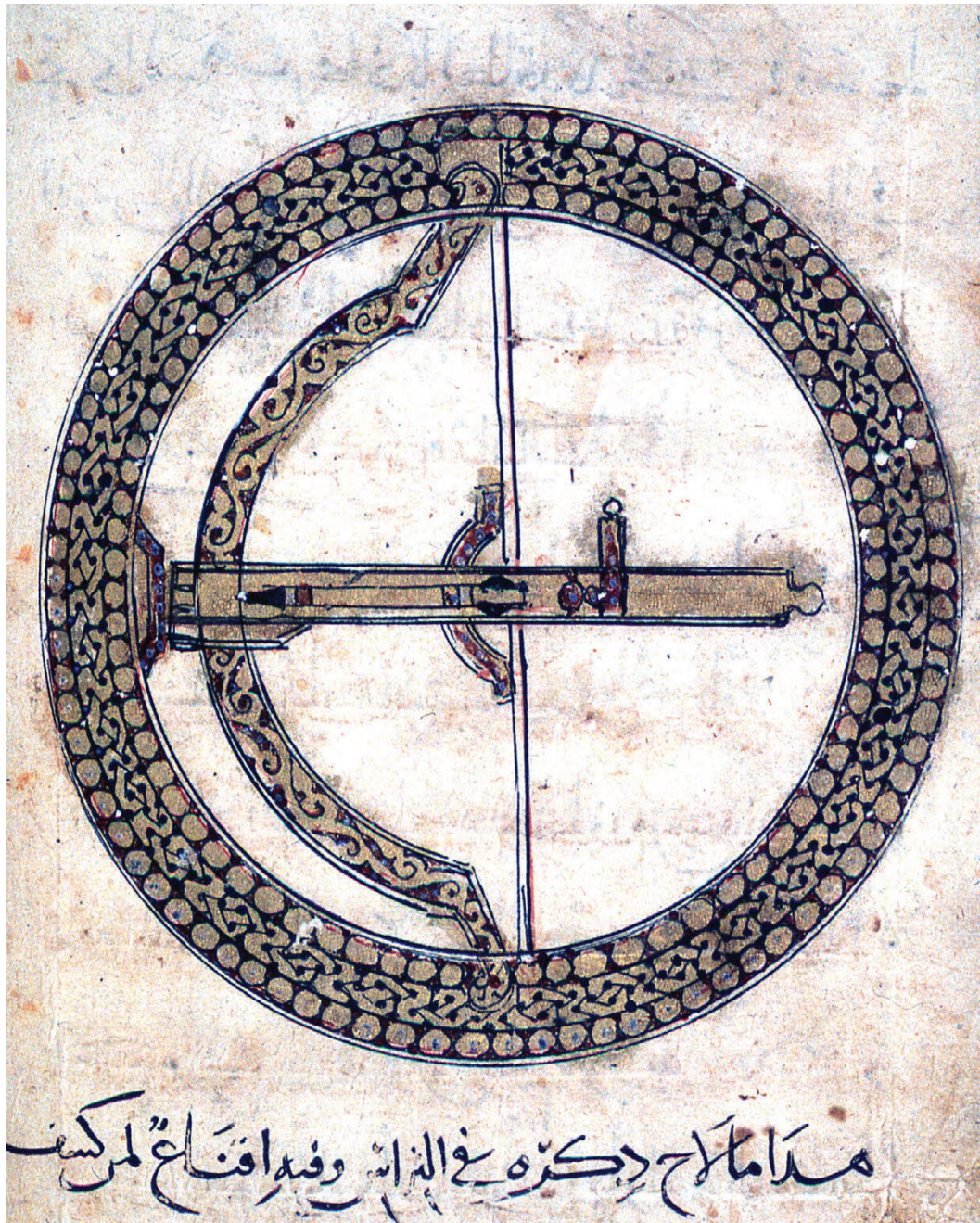
Photograph 55. Helmeted guardsman with face-covering mail aventail, fragment of wall-painting from Sabz Pushan, Nīshāpūr, Sāmānid, 10th century (Metropolitan Museum of Art, New York, USA).



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Photograph 56. Crossbow mounted inside a shield, experimental weapon illustrated and described in the *Tabṣira* by Murḍī Ibn cĀlī Ibn Murḍī al-Ṭarsūsī written for Saladin, late Fātimid or early Ayyūbid Egypt, c.1170 AD (Ms. Hunt.264, f.117, Bodleian Library, Oxford, UK).



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Photograph 57. Warrior in full mail armour assisting a prostrate man, detail of a wall painting from Penjikent, Sughdian, early 8th century (Hermitage Museum, St. Petersburg, Russia).



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Photograph 58. Cavalry training in the use of the sabre in a copy of the *Nihāyat al-sūl wa'l-umnīyah fī taclīm acmāl al-furūsīyah* military training manuscript attributed to Muḥammad Ibn cīsā Ibn Ismācīl al-Ḥanafī, Mamlūk Egypt or Syria, 1371 AD (facsimile of British Library, Ms. Add. 18866, f.122b, London, UK; courtesy of Mr. Abdul Mostafa).

Line drawings

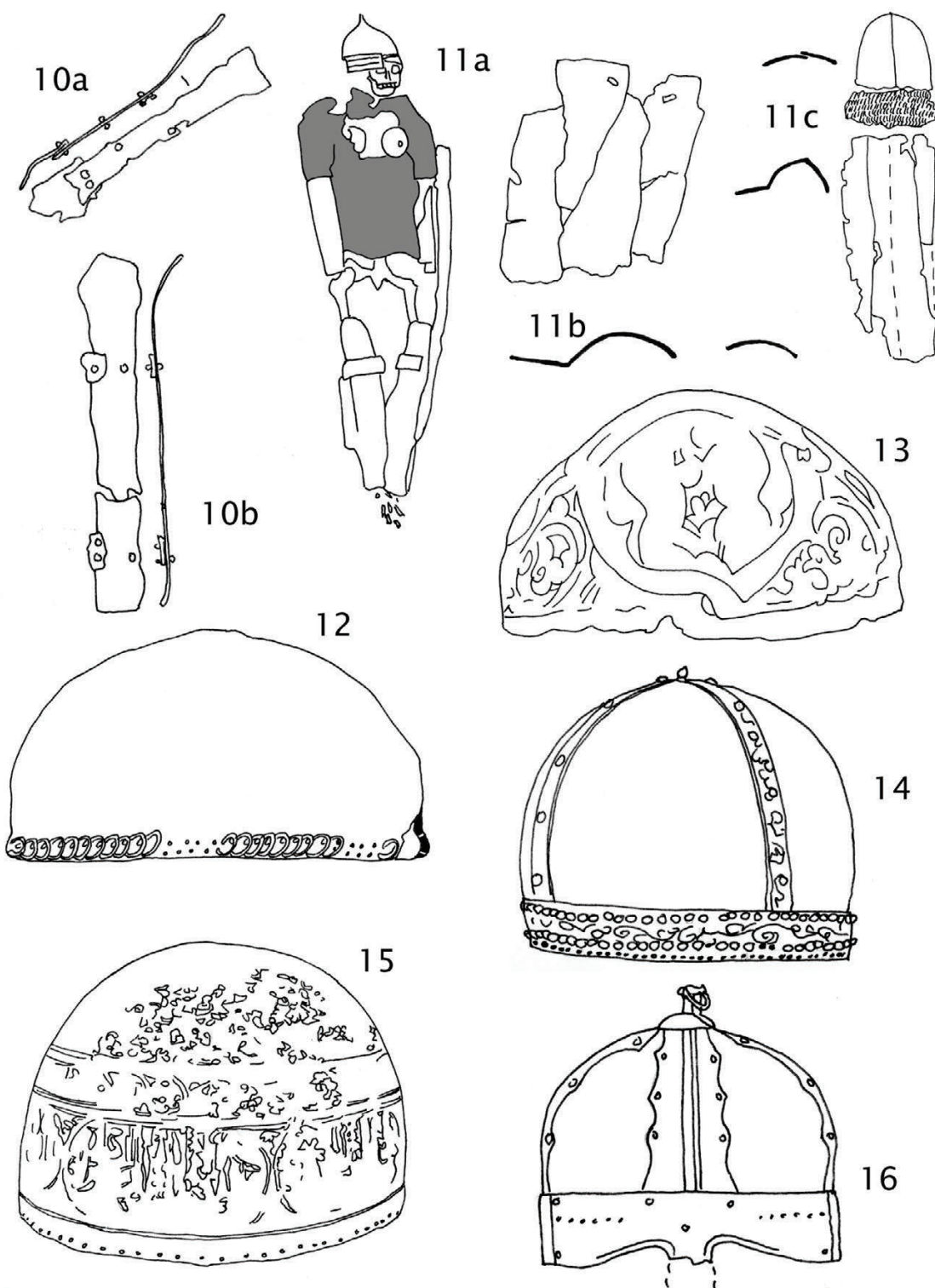
Note that illustrations of surviving military equipment, horse-harness, and clothing (figs. 10–75) are grouped according to type of artefact, then chronologically, and finally by region. However, illustrations of comparative art sources (figs. 76–185) are grouped chronologically, then according to medium, and finally by region.



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Military Equipment, Horse-harness and Clothing

Figure 10. Limb defences, 9th–10th centuries Khazar, from Kozzyi Skaly, Mount Beshtau near Pyatigorsk, southern Russia (after M. Gorelik¹⁴⁶):

- a. splinted vambrace;
- b. splinted greave

Figure 11. Material from the grave of a Turkish Kipchaq warrior, from Dmitrievskaya, pre-Kuban steppes of southern Russia, 12th–early 13th century (after Yu.V. Zelen-skii¹⁴⁷):

- a. skeleton [simplified] with helmet, mail shirt [shaded grey], limb defences and long sabre;
- b. vambrace;
- c. knee-protection with mail flap and greave

Figure 12. One-piece iron helmet from Varaghsah temple [Jartepah II], early 8th century (after M. Samibayev¹⁴⁸; believed to be in storage in the State Museum of the History of Uzbekistan, Tashkent, Uzbekistan).

Figure 13. One-piece iron helmet with chiselled decoration, 8th–9th century Iran (Furusiyya Art Foundation, inv. R-815, London, UK).

Figure 14. One-piece iron helmet from Chamosen, Islamic 9th–10th century, with separate, perhaps later, European strap-work decoration and rim-band (Schweizerisches Landesmuseum, Zurich, Switzerland).

Figure 15. One-piece iron helmet with gold-inlay decoration, 13th century Egypt or Syria (Furusiyya Art Foundation, inv. R-800, London, UK).

Figure 16. Segmented and framed iron helmet, southern Iran 13th–14th century (after V.V. Ovsyannikov¹⁴⁹).

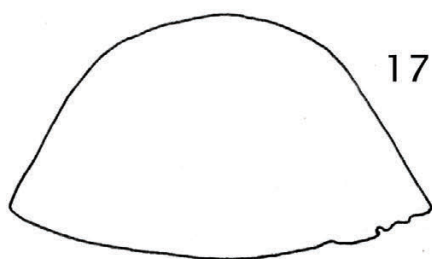
¹⁴⁶Gorelik, M., *Arms and Armour of South-Eastern Europe in the Second Half of the First Millennium AD*, in D. Nicolle (ed.), *A Companion to Medieval Arms and Armour* (Woodbridge 2002) fig. XI-5: 23–24.

¹⁴⁷Zelenskii, Yu.V., [Ю.В. Зеленский], “Поножи из половецкого погребения в степном Прикубанье», *ВОЕННАЯ АРХЕОЛОГИЯ*, 1 (2008) 116–117, pls. 1–5.

¹⁴⁸M. Samibayev (private communication 1992).

¹⁴⁹Ovsyannikov, V.V. [В.В. Овсянников], “К Вопрос о Защитном Вооружении Поздних Кочевников Урала», in Ююсю Худяковб (et al. eds.), *Военное Дело Древнего и Средневекового Населения Северной и Центральной Азии* (Novo Sibirsk 1990) 141– 149, fig 1.

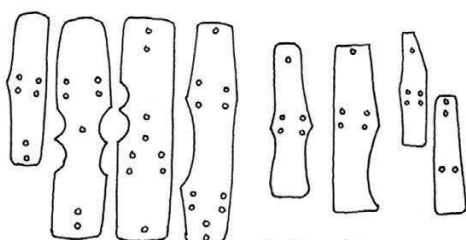




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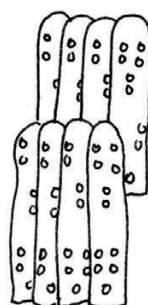
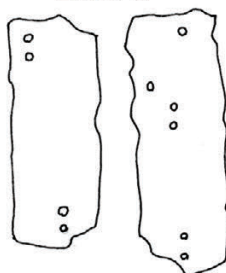


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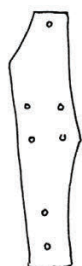


19a-h

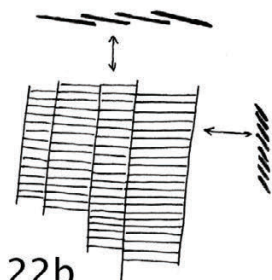
20a-b



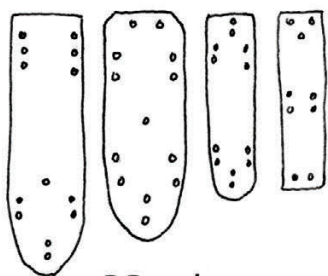
21



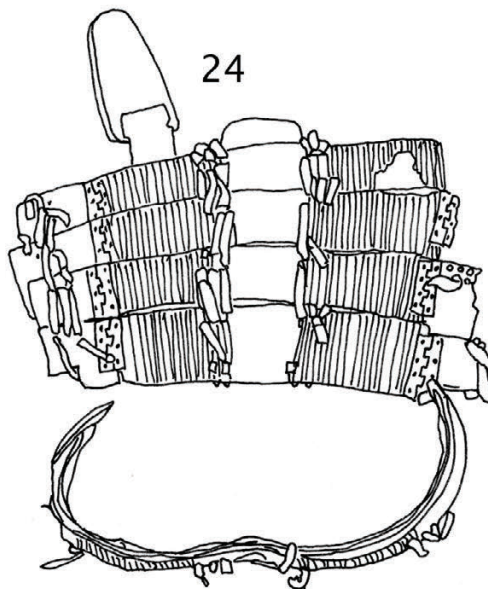
22a



22b



23a-d



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Figure 17. One-piece iron helmet found outside Tower W of Paphos castle, 13th century probably western European, slightly squashed (after A.H.S. Megaw¹⁵⁰).

Figure 18. Brimmed iron helmet [war-hat], 13th century northern Italy (Museo Navale, Genoa, Italy).

Figures 19a–h. Varied shapes of iron lamellae found in the remains of a lamellar cuirass used by a member of the Sassanian garrison of Tsibillium fortress, Abkhazia, mid-6th century Iranian (after M. Gorelik¹⁵¹).

Figures 20a–b. Iron lamellae from a warrior's grave at Legerevskie, southern Urals regions of central Russia, 9th–10th century Turkic (after N.A. Mazhitov¹⁵²).

Figure 21. Iron lamellae, 9th–10th centuries Khazar, from Kozzyi Skaly, Mount Beshtau near Pyatigorsk (after M. Gorelik¹⁵³).

Figure 22. Mixed iron and bronze lamellae from the remains of a cuirass found at Qaṣr-i Abū Naṣr, 7th century Sassanian or early Islamic Iranian; restored shape of a complete scale; b. lamellae as found, viewed from exterior, top and side (Metropolitan Museum of Art, New York).

Figure 23. Iron lamellae from southern Iran 13th–14th century (after V.V. Ovsyannikov¹⁵⁴).

Figure 24. Exterior of red-stained, laminated leather cuirass, each lame built up of six to seven layers of leather, late 12th or early 13th century, probably from castle of al-Raḥba, north-eastern Syria (Qatar Ministry of Antiquities, Doha, Qatar).

¹⁵⁰ Megaw, A.H.S., "Supplementary Excavations on a Castle Site at Paphos, Cyprus, 1970–1971", *Dumbarton Oaks Papers*, 26 (1972) fig. 42.

¹⁵¹ Gorelik, M., *Arms and Armour of South-Eastern Europe in the Second Half of the First Millennium AD*, in D. Nicolle (ed.), *A Companion to Medieval Arms and Armour* (Woodbridge 2002) fig. XI-2: 3.

¹⁵² Mazhitov, N.A. [Н.А. Мажитов], *Курганы Южного Урала VIII–XIII вв* (Moscow 1981) fig. 43: 4–5.

¹⁵³ Gorelik, M., *Arms and Armour of South-Eastern Europe in the Second Half of the First Millennium AD*, in D. Nicolle (ed.), *A Companion to Medieval Arms and Armour* (Woodbridge 2002) fig. XI-5: 19.

¹⁵⁴ Ovsyannikov, V.V. [В.В. Овсянников], "К Вопрос о Защитном Вооружении Поздних Кочевников Южного Урала", in Ю.Ю. Худяков (et al. eds.), *Военное Делю Древнего и Средневекового Населения Северной и Центральной Азии* (Novo Sibirsk 1990) fig. 1.



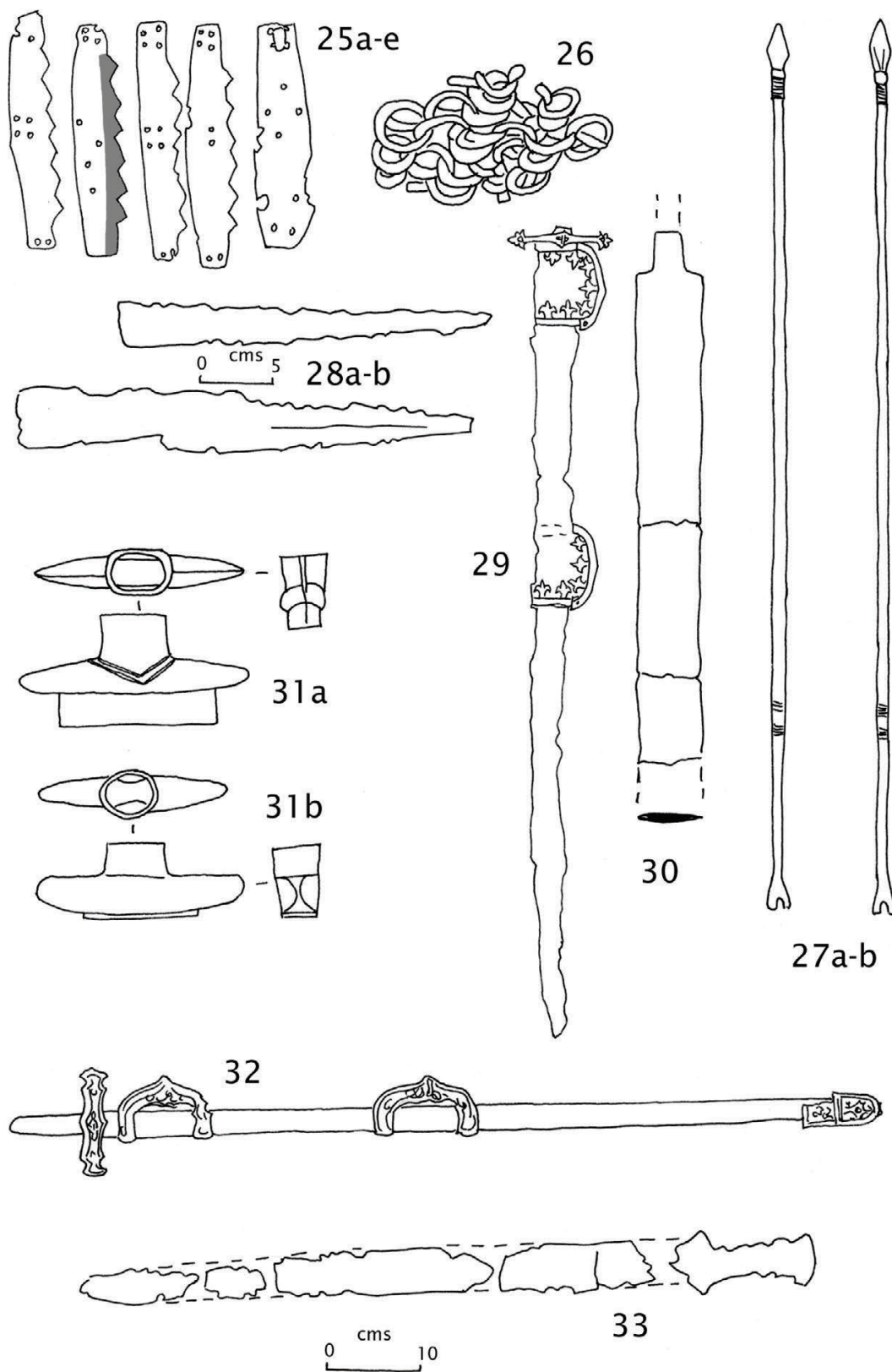


Figure 25. Iron lamellae from Tower 4 of the Citadel of Damascus, late 12th to early 14th century Syria [remaining gilding on 25b shaded grey] (Conservation Department inv. 2001/120, National Museum, Damascus, Syria).

Figure 26. Fragment of mail from a warrior's grave at Legerevskie, southern Urals regions of central Russia, 9th–10th century Turkic (after N.A. Mazhitov¹⁵⁵).

Figures 27a–b. Two arrows, 11th–12th centuries from inner Asia, Khirgiz Turkic (after Y.S. Khudyakov¹⁵⁶).

Figures 28a–b. Corroded iron blade and butt of a spear from Bishtam Qalca [Beshtam-Kala], 12th–13th centuries, Islamic Central Asia (via M. Gorelik¹⁵⁷).

Figure 29. Sabre with bronze quillons and scabbard elements from Nishāpūr, 9th–10th centuries Turco-Islamic (Metropolitan Museum of Art, inv. 40.170.168, New York, USA).

Figure 30. Broken part of a straight, double-edged sword [6 cms wide] from Nishāpūr, 9th–10th centuries Turco-Islamic (Metropolitan Museum of Art, New York, USA).

Figures 31a–b. Two cast bronze quillons or guards from missing swords, found in an excavated building in Tiberius, late 11th century Fāṭimid period [probably from the arrival of the First Crusade] (displayed in the *House of Bronzes Exhibition*, May 2004, Archaeology Department, Hebrew University, Jerusalem, Israel).

Figure 32. Sword with decorated bronze quillons and scabbard elements from a warrior's tomb in the Altai Mountains, 9th–10th century Khirgiz Turkic (after Y.S. Khudyakov¹⁵⁸).

Figure 33. Double-edged sword from Bishtam Qalca [Beshtam-Kala], 12th–13th centuries, Islamic Central Asia (via M. Gorelik¹⁵⁹).

¹⁵⁵ Mazhitov, N.A. [н.а. Мажитов], *Курганы Южного Урала VIII–XIII вв* (Moscow 1981) fig. 43: 6.

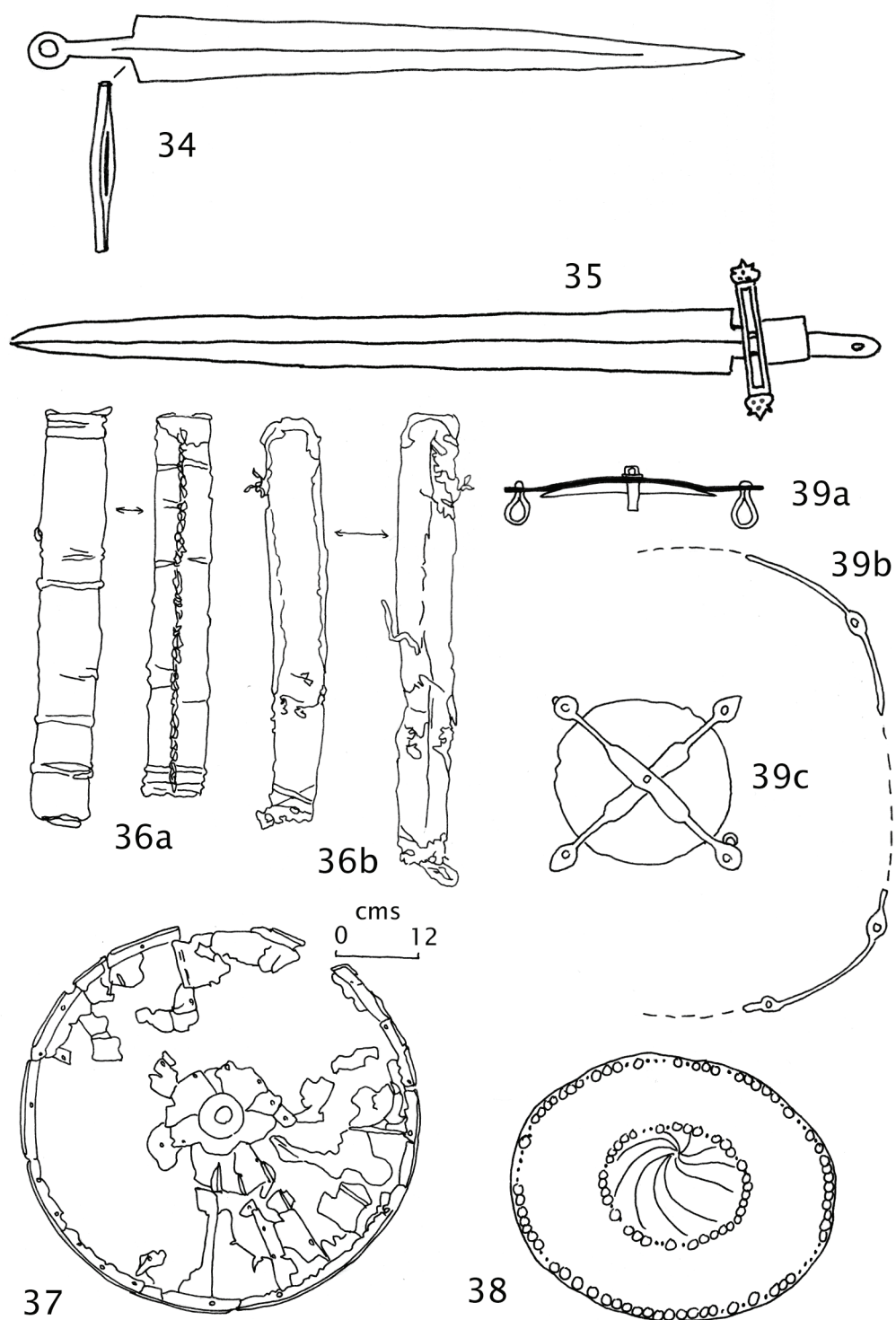
¹⁵⁶ Khudyakov, Y.S. [Ю.С. Худяков], *Вооружение Енисейских Кыргызов VI–XII в.в.* (Novo Sibirsk 1980) fig. 24: 7–8.

¹⁵⁷ M. Gorelik (personal communication 2004).

¹⁵⁸ Khudyakov, Y.S. [Ю.С. Худяков], *Вооружение Средневековых Крчевниковой Сибири и Центральной Азии* (Novo Sibirsk 1986) fig. 85: 1.

¹⁵⁹ M. Gorelik (personal communication 2004).





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Figure 34. Sword with separated iron quillon, 13th century, attributed to an unnamed ruler of Egypt (Army Museum, Istanbul, Turkey).

Figure 35. Sword with iron quillons found in the tomb of Ṣalāḥ al-Dīn, accredited to his father Najm al-Dīn Ayyūb, 12th century Egypt (Army Museum, Istanbul, Turkey).

Figures 36a–b. Two leather-covered wooden scabbard from Tower 4 of the Citadel of Damascus, late 12th to early 14th century Syria (Conservation Department inv. 2001/unnumbered, National Museum, Damascus, Syria).

Figure 37. The remains of the iron segmented covering, rim and boss of a shield from Bishtam Qalca [Beshtam-Kala], 12th–13th centuries, Islamic Central Asia (M. Gorelik¹⁶⁰)

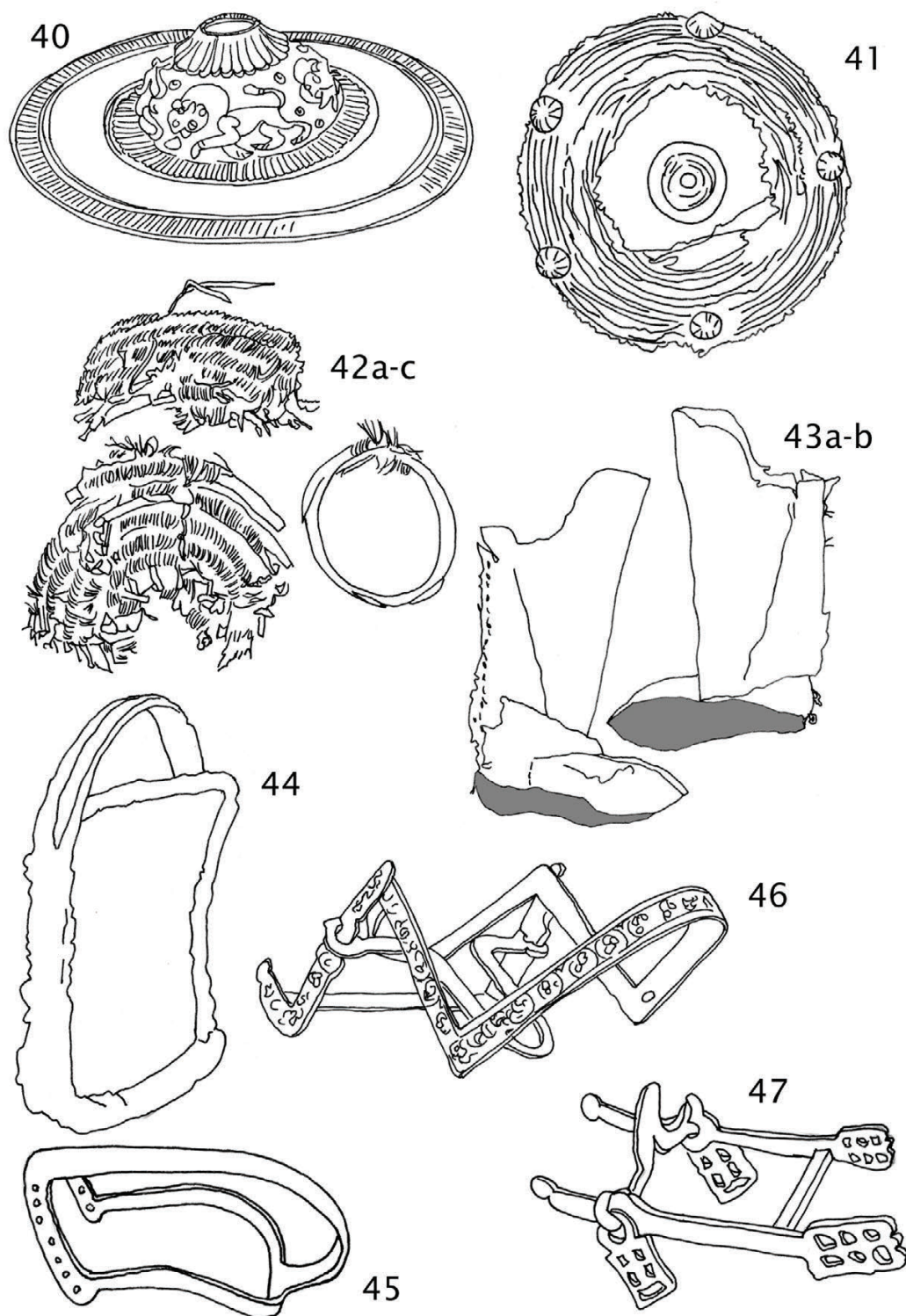
Figure 38. Silver shield-boss from a warrior's grave in the eastern Ukraine, 11th–13th centuries Kipchaq Turkic (Museum of the Institute of Historical Sciences, inv. nr. AZS-3624, Ukrainian Academy of Sciences, Kiev, Ukraine).

Figures 39a–c. Metallic elements from an originally spiral cane shield from a warrior's grave, north-western Caucasus, 13th to 15th centuries (M. Gorelik¹⁶¹).

¹⁶⁰M. Gorelik (personal communication 2004).

¹⁶¹M. Gorelik (personal communication 2004).





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Figure 40. Bronze probable shield boss, late 12th century Khūrāsān (Musée du Louvre, Paris, France).

Figure 41. Shield of spiral palm-wood or cane, bound with textile thread, with a wooden centre found in the castle of al-Raḥba, 13th–14th centuries (reportedly in the Archaeological Museum, Dayr al-Zur [Deir ez-Zor], Syria).

Figure 42. Fragments from one or more textile thread bound spiral cane shields from Tower 4 of the Citadel of Damascus, late 12th to early 14th century Syria (Conservation Department inv. 2001/109, National Museum, Damascus, Syria).

Figures 43a–b. A pair of leather riding books from Qaṣr Ibrim [soles indicated by grey shading], Nubian or Mamlūk 14th–15th century (Egyptian Ministry of Antiquities, Cairo, Egypt).

Figure 44. Corroded iron bit with integral raised iron nose-band, from Penjikent, Sughdian or Central Asian Islamic, early 8th century (after V. Raspopova; probably in the State Hermitage Museum, St. Petersburg, Russia).

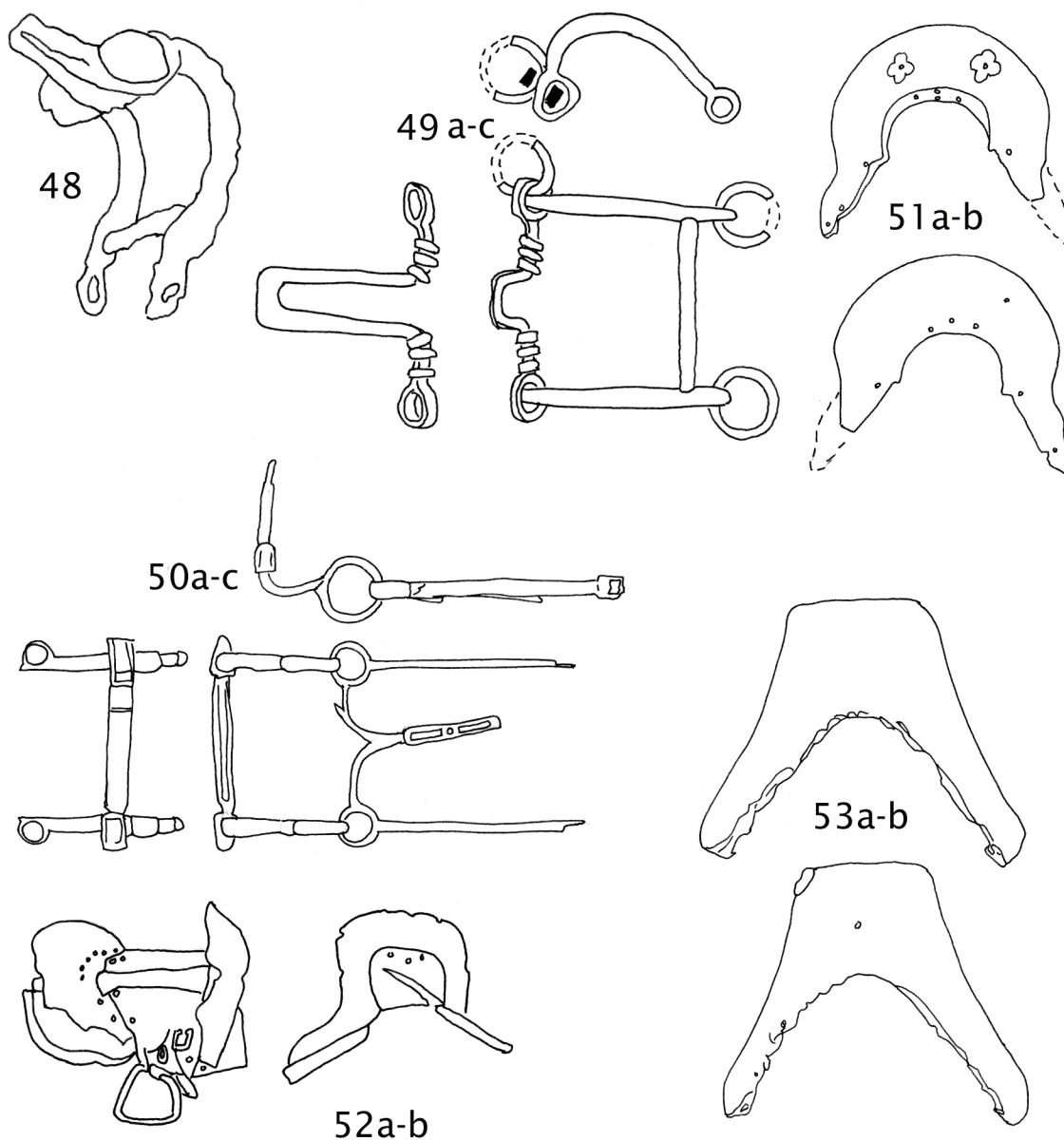
Figure 45. Bronze bit with integral nose-bands from Sūs [Susa], Sassanian 4th century (M. Gorelik¹⁶²).

Figure 46. Bronze curb-bit with gilded decoration, Sassanian 3rd–5th centuries (Metropolitan Museum of Art, inv. 1971.223A & B, New York, USA).

Figure 47. Iron curb-bit from Andalusia, said to be early 8th century Visigothic [probably later] (Metropolitan Museum of Art, inv. nr. 47.100.24, New York, USA).

¹⁶²M. Gorelik (personal communication 2004).





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Figure 48. Corroded iron bit from Penjikent, Sughdian or Central Asian Islamic, early 8th century (after V. Raspopova; probably in the State Hermitage Museum, St. Petersburg, Russia).

Figures 49a–c. Three views of a bronze curb-bit from Penjikent [inside view, section through the curb is shown black], Sughdian or Central Asian Islamic, early 8th century (after V.I. Raspopova¹⁶³; probably in the State Hermitage Museum, St. Petersburg, Russia).

Figures 50a–c. Three views of a bronze curb-bit [decorative Arabic religious inscription, *Lā illāha illā hū*, not shown] found near Liétor, Andalusian 11th century (after J. Navarro Palazón¹⁶⁴).

Figures 51a–b. Two views of part of a saddle from a warrior's grave at Uono Sum, 8th–9th century Turkic (Regional Historical Museum, Zargalant, Mongolia).

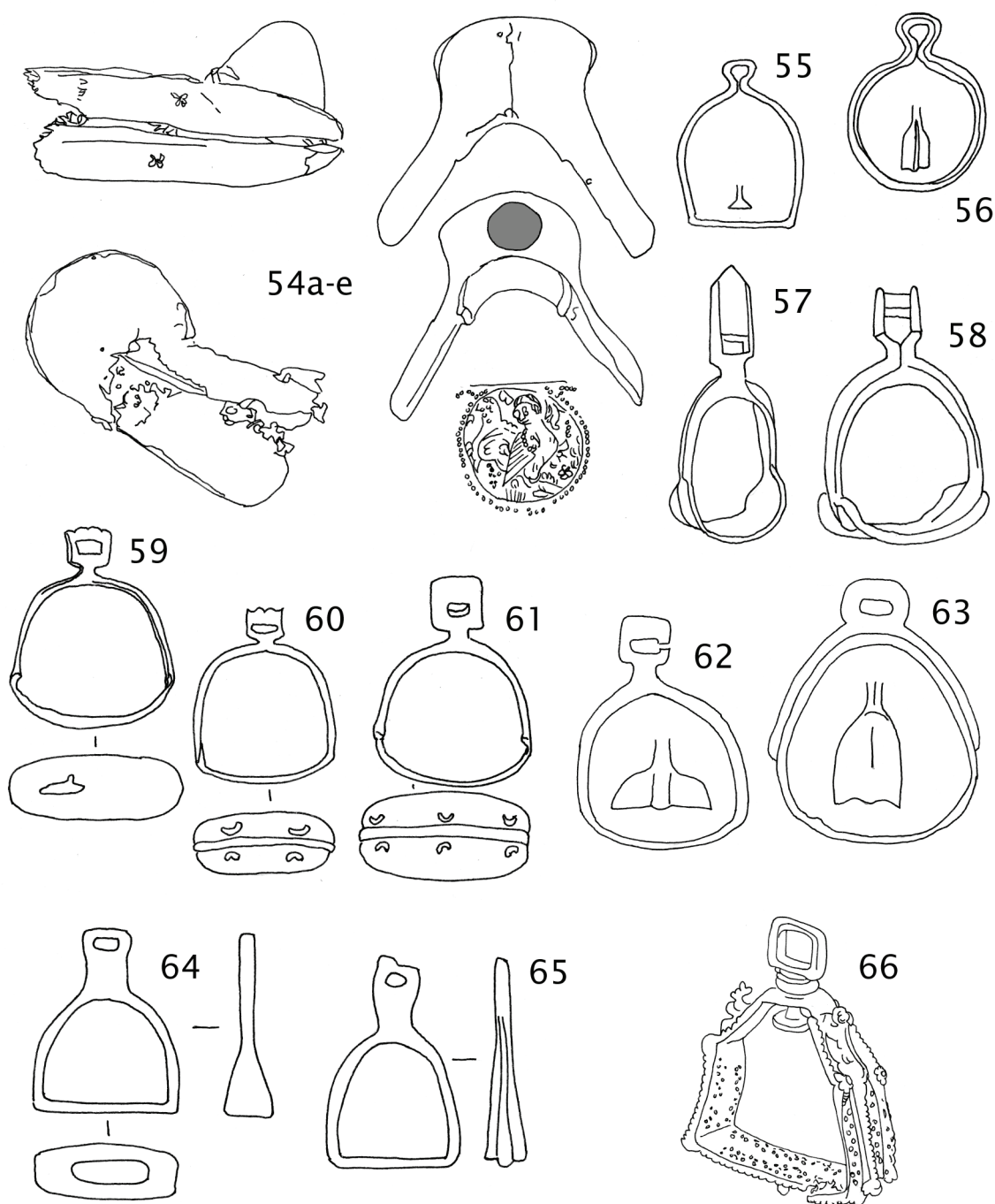
Figures 52a–b. Two views of a saddle from a warrior's grave at Chovd Sum, 10th–14th century Turkic or Mongol (Regional Historical Museum of the Aimaks Uvs [province], Ulaangom, Mongolia).

Figures 53a–b. Front and rear views of the pommel of an undecorated saddle from Tower 4, Citadel of Damascus, late Ayyūbid or early Mamlūk, 13th–14th century (Conservation Department inv. 2001/unnumbered, National Museum, Damascus, Syria).

¹⁶³Raspopova, V.I. [В.И. Распопова], *Металлические Изделия Раннесредневекового Востока* (Leningrad 1980) fig. 79: 3.

¹⁶⁴Navarro Palazón, J. (personal communication 1995).zzzz





Figures 54a–e. Broken elements of an almost complete saddle from Tower 4, Citadel of Damascus, late Ayyūbid or early Mamlūk, 13th–14th century (Conservation Department inv. 2001/unnumbered, National Museum, Damascus, Syria):

- a. seat and cantle from beneath;
- b. seat and cantle from above;
- c. rear of pommel;
- d. front of pommel [position of “harpies” decoration shaded grey];
- e. embossed leather decoration including a harpie motif

Figures 55–56. Stirrups from a warrior’s grave at Manyakskiy Mogilnik, southern Urals regions of central Russia, Turkic 6th–7th century (after N.A. Mazhitov¹⁶⁵).

Figure 57. Bronze stirrup from Central Asia, probably showing Chinese influence, 6th–7th centuries (Ashmolean Museum, inv. no. 1965.165, Oxford, UK).

Figure 58. Bronze stirrup found near Voznesenka, Dnipro region of Ukraine, Turkic 7th century (after M. Gorelik¹⁶⁶).

Figures 59–61. Bronze stirrups from a warriors’ graves in the Yenesi river region, Yenesi Khirgiz 8th–10th centuries (after A.D. Grach¹⁶⁷).

Figure 62. Damaged stirrup from a warrior’s grave at Khusainovsiye, southern Urals region of central Russia, Turkic 9th–10th centuries (after N.A. Mazhitov¹⁶⁸).

Figure 63. Stirrup from a warrior’s grave at Legerevskie, southern Urals region of central Russia, Turkic 9th–10th centuries (after N.A. Mazhitov¹⁶⁹).

Figures 64–65. Stirrups from warrior’s graves in Piatigorsk area, north-central Caucasus region of southern Russia, Alanic or Turkic 10th–12th centuries (after M. Gorelik¹⁷⁰).

Figure 66. Bronze stirrup from Iran or northern India, eastern Islamic 11th–12th centuries (Nasser D. Khalili Collection, inv. MTW 803, London).

¹⁶⁵Mazhitov, N.A. [н.а. мажитов], *курганы южного урала VIII–XIII вв* (Moscow 1981) fig. 6: 8 & 31.

¹⁶⁶M. Gorelik (personal communication 2009).

¹⁶⁷Grach, A.D. [А.Д. Грач] (et al. eds.), *Енисейские Кыргызы в центре Тувы* (Moscow 1998) fig. 12: 3–5.

¹⁶⁸Mazhitov, N.A. [н.а. Мажитов], *Курганы Южного Урала VIII–XIII вв* (Moscow 1981) fig. 22: 12.

¹⁶⁹Mazhitov, N.A. [н.а. Мажитов], *Курганы Южного Урала VIII–XIII вв* (Moscow 1981) fig. 43: 15.

¹⁷⁰M. Gorelik (personal communication 2011).



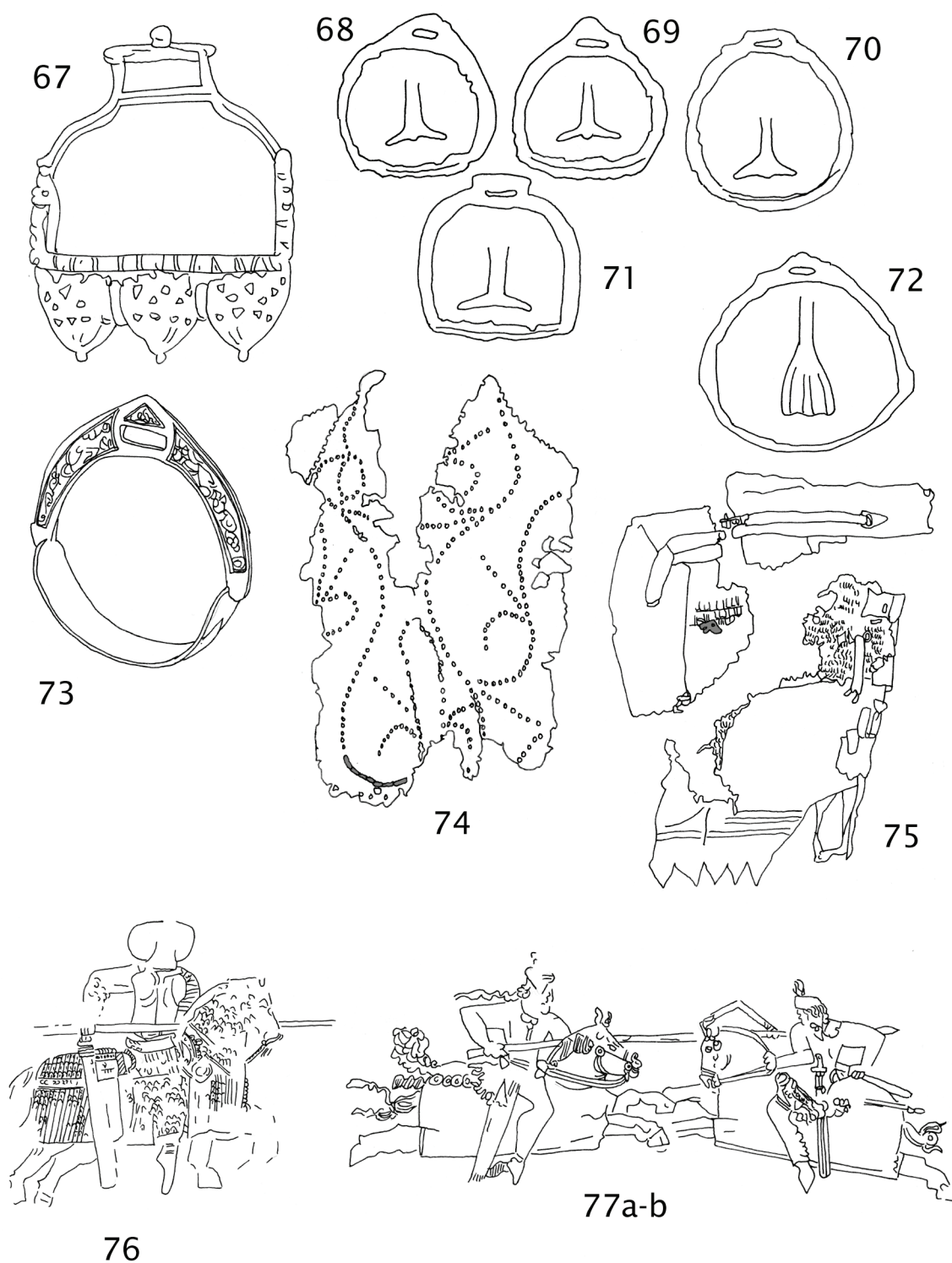


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Comparative Art Sources

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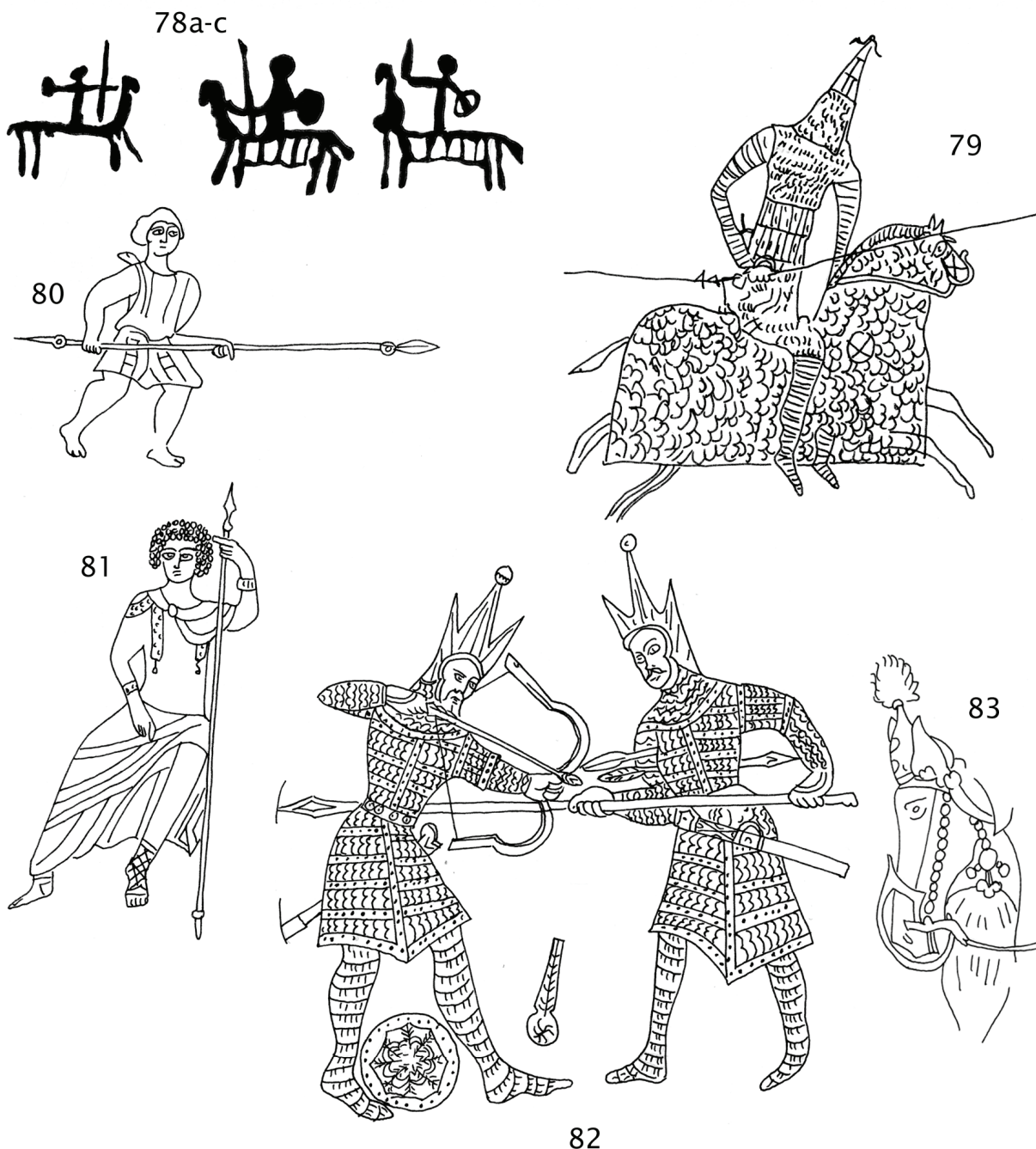
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¹⁷¹M. Gorelik (personal communication 2011).

¹⁷²Mazhitov, N.A. [н.а. Мажитов], *Курганы Южного Урала VIII–XIII вв* (Moscow 1981) fig. 73: 4.

¹⁷³Allason-Jones, L., *Catalogue of Weaponry from Soba Excavations 8–14 cents.* (unpublished manuscript).





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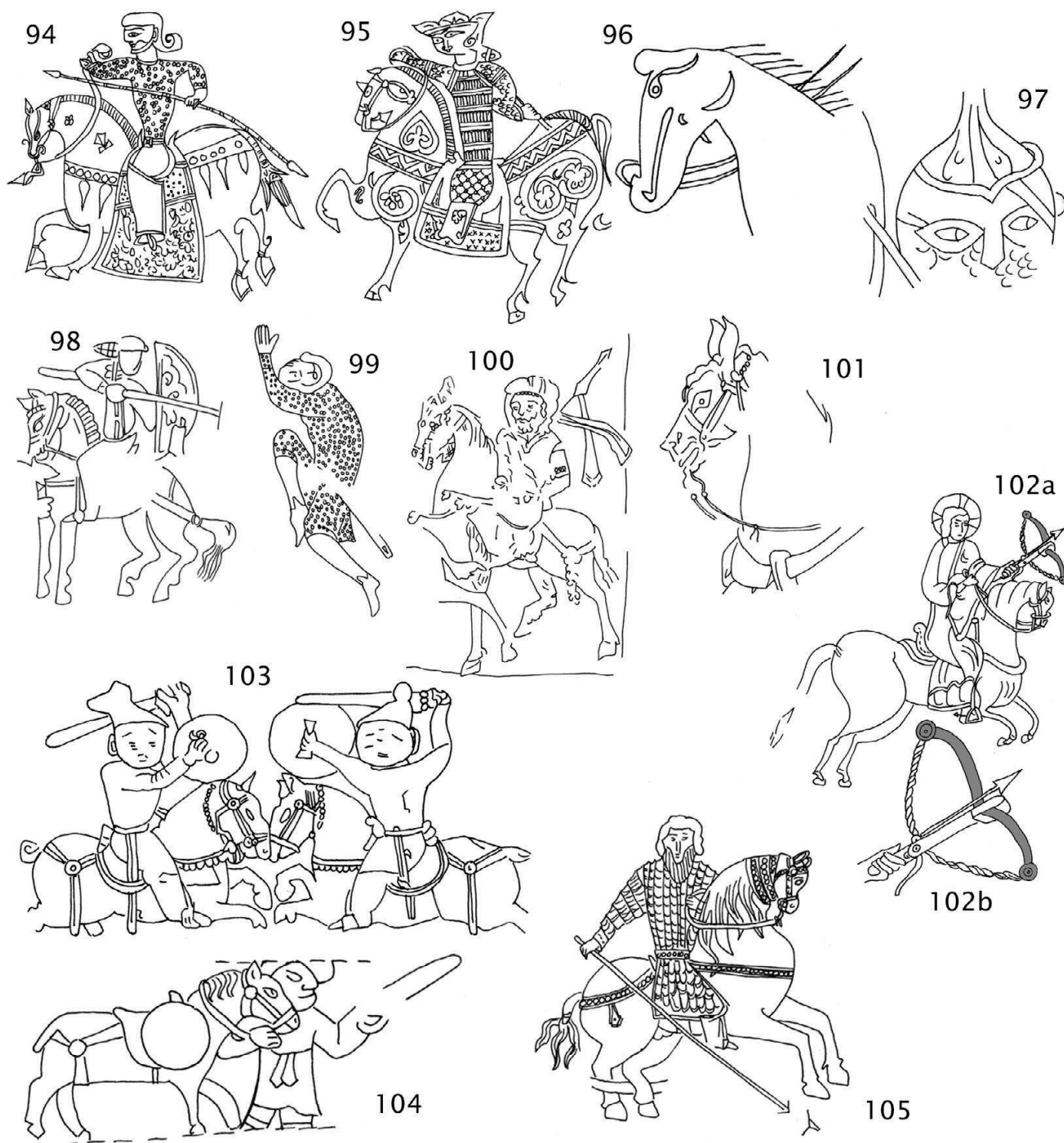
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¹⁷⁴Negmatov, N.N. [Н.Н. Негматов], “О Живописи Дворца Афшинов Уструшаны», *Советская Археология*, 3 (1973) figs. 4 & 12.





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Figure 106. Petraglyph of an armoured horseman, Khirgiz Turkish, south-central Siberia, 11th–12th centuries (after Y.S. Khudyakov¹⁷⁵).

Figure 107. Guard of the sultan, wall painting from Lashkarī Bazar, Ghaznawid, 11th century (Archaeological Museum, Kabul, Afghanistan).

Figure 108. Carving on bone, Fāṭimid Egypt, 11th century (Metropolitan Museum of Art, inv. 33.157.6, New York, USA).

Figure 109. Horse of St. Theodore, detail of a wall painting in the church, Georgian, 1096 AD (*in situ*, Iprari, Georgia).

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Figure 115. Ruler's attendant, with mail and lamellar armour, Seljuqid Iran, late 12th–early 13th centuries (Museum of Fine Arts, inv. 63.1386, Boston, USA).

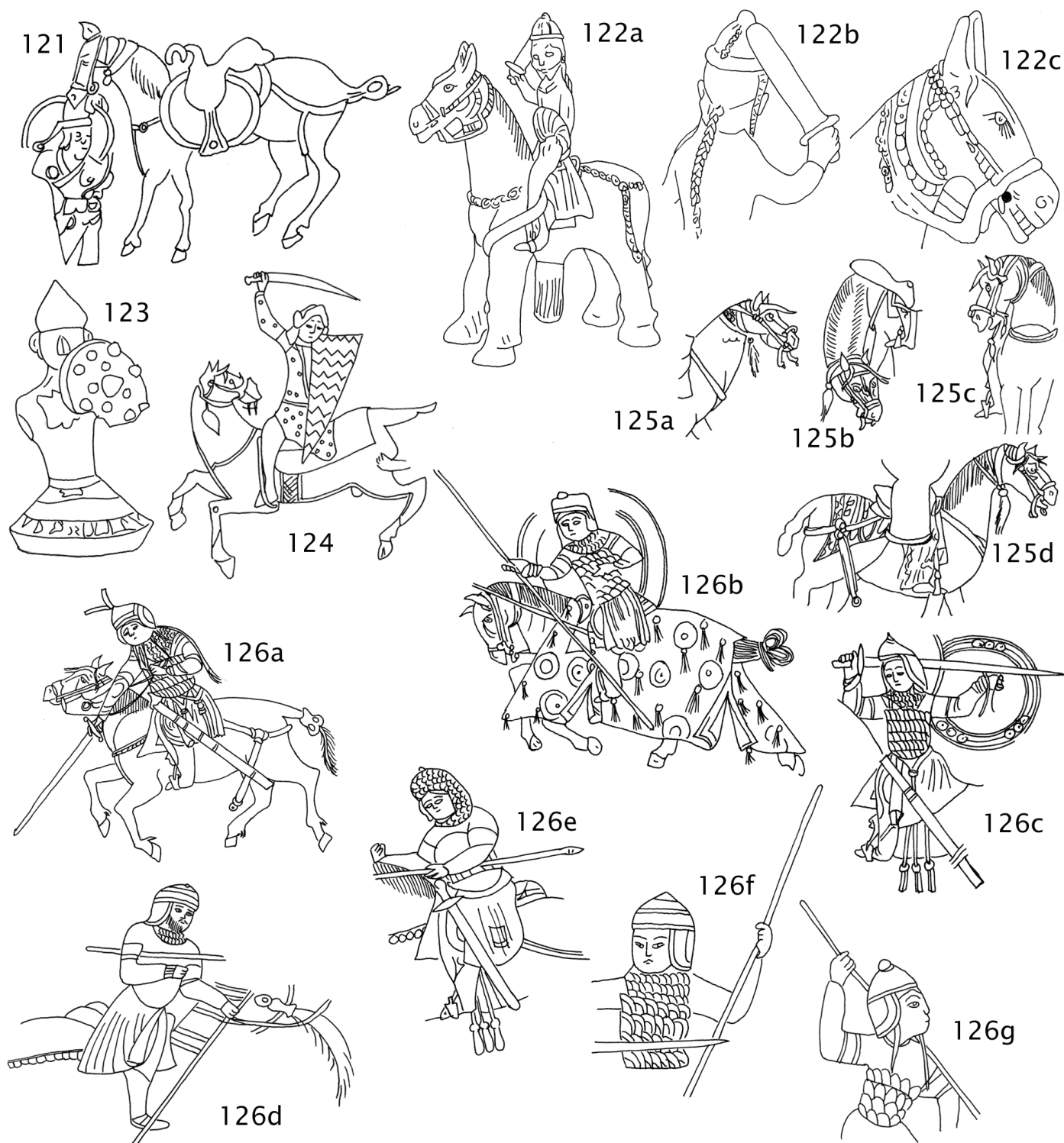
Figure 116. Bridled horse, detail of a ceramic lustre tile illustration of “The Iranians leave the castle of Furud” [episode in the *Shāhnāmah*], Iran, late 12th–early 13th centuries (Museum of Fine Arts, Boston, USA).

Figure 117. Warrior with a curved sabre, ceramic plate from Sāwa, Iran, 12th–13th centuries AD (Hermitage Museum, St. Petersburg, Russia).

Figure 118. Huntsman with long bandana, ceramic dish from Rayy, late 12th century (Museum für Islamische Kunst, inv. nr.I.15/60, Berlin, Germany).

¹⁷⁵Khudyakov, Y.S. [Ю.С. Худяков], *Вооружение Енисейских Кыргызов VI–XII в.в.* (Novo Sibirsk 1980) fig. 47.





Figures 119a–c. Helmeted warriors, detail of a ceramic lustre tile illustration of “The Iranians leave the castle of Furud” [episode in the *Shāhnāmah*], Iran, late 12th–early 13th centuries (Museum of Fine Arts, Boston, USA).

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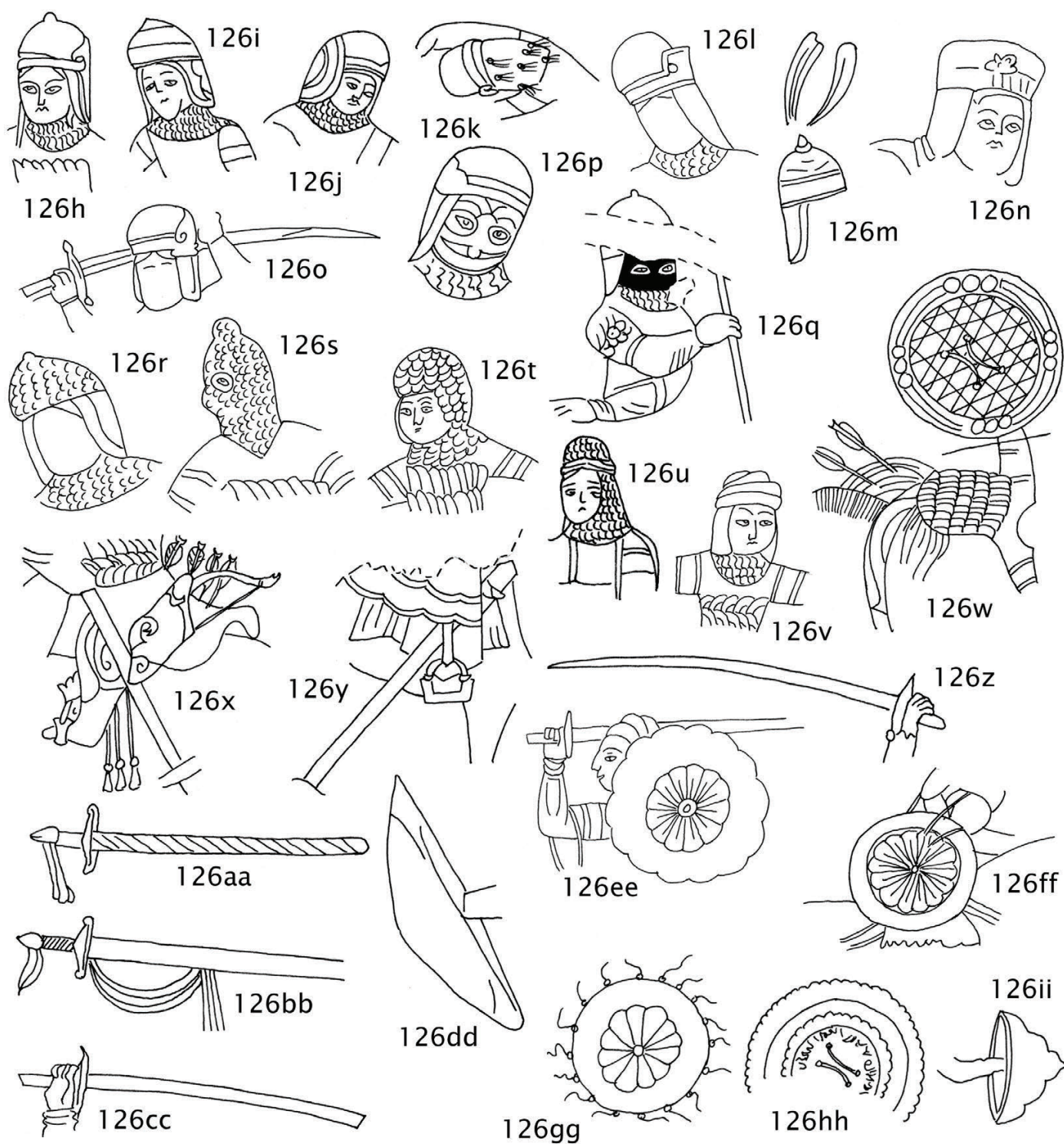
Figure 124. Cavalryman with a Turkish sharbūsh hat and a Byzantine-style triangular shield [note that the apparent curvature of the straight sword is due to the shape of the dish and the angle of the photograph from which this drawing was made], painted ceramic bowl from Raqqa, Ayyūbid Syria, late 12th or early 13th centuries (Museum für Islamische Kunst, Berlin, Germany).

Figures 125a–d. Details of horse harness in the *Kitāb al-Tiryāq* manuscript [note the rider in 125b is almost sitting side-saddle], northern Iraq, 1199 AD (Bibliothèque Nationale, Ms. Ar. 2964, Paris, France).

Figures 126a–oo. Details from the *Warqah wa Gulshāh* manuscript, Azarbayjan or western Iran, 12th–early 13th centuries AD (Topkapi Library, Ms. Haz. 841, Istanbul, Turkey):

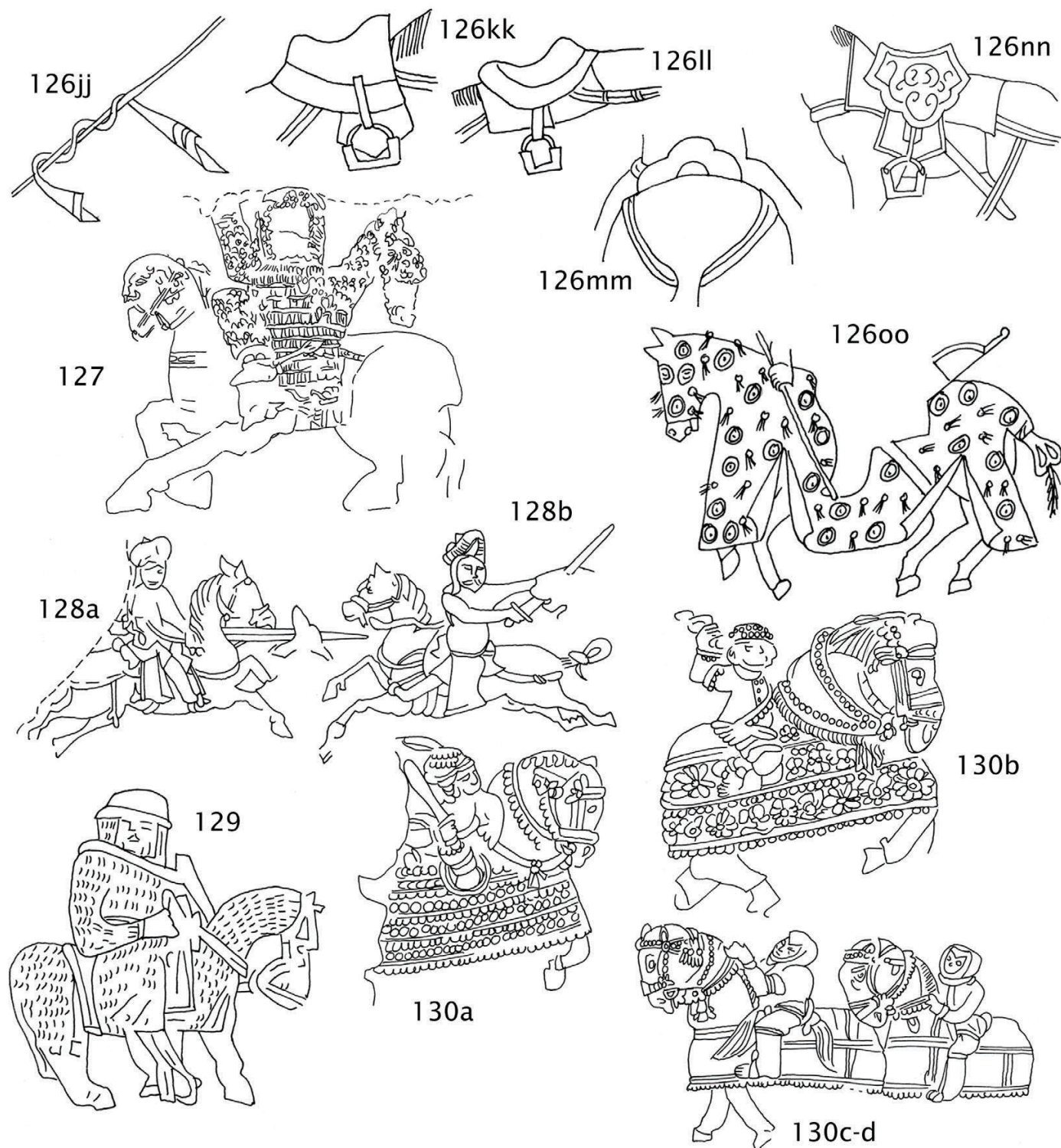
- a. “Night attack by Rabī Ibn Adnān” [f.3/6a];
- b. “Combat between Rabī and Warqah” [f.18/18b];
- c. “Night attack by Rabī Ibn Adnān” [f.3/6a];
- d–e. “Warqah overthrows a warrior of Aden” [f.39/37b];
- f. “Warqah and his father leave the Banū Shaybah” [f.8/10a];
- g. “Battle between Banū Zabbah and Banū Shaybah” [f.9/11a];





- h. "Battle between Banū Zabbah and Banū Shaybah" [f.10/12a];
- i-j. "Gulshāh comes to take off her veil" [f.22/21b];
- k. "Gulshāh kills Rabī Ibn Adnān" [f.23/22a];
- l. "Army of Yemen defeats troops of Aden and Bahrayn" [f. 41/39a];
- m. "Warqa taken prisoner by Rabī" [f.21/20b];
- n. "Rabī wounds Warqa in the thigh" [f.18/18b];
- o. "Army of Yemen defeats troops of Aden and Bahrayn" [f. 41/39a];
- p. "Warqah and Gulshāh attack Rabī" [f.20/20a];
- q. "Warqah and his father leave the Banū Shaybah" [f.8/10a];
- r. "Gulshāh kills Rabī Ibn Adnān" [f.24/23a];
- s. "Warqah leads the army out of the city of Yemen" [f.37/35a];
- t. "Warqah fight Rabī" [f.17/18a];
- u. "Gulshāh kills Rabī Ibn Adnān" [f.23/22a];
- v-w. "Battle between Banū Zabbah and Banū Shaybah" [f.10/12a];
- x. "Rabī Ibn Adnān in combat with Banū Shaybah" [f.11/13a];
- y. "Warqah discusses with his father" [f.7/9a];
- z. "Warqah and Gulshāh attack Rabī" [f.20/20a];
- aa-bb. "Combat between Gulshāh and Qālib" [f.26/25a];
- cc-dd. "Army of Yemen defeats troops of Aden and Bahrayn" [f. 41/39a];
- ee. "Rabī's night attack on the Banū Shaybah" [f.4/7b];
- ff. "This idol of vengeance gave a blow of the lance" [f.24/25b];
- gg-hh. "Warqah and Gulshāh attack Rabī" [f.20.20a];
- ii. "Rabī Ibn Adnān in combat with Banū Shaybah" [f.12/13b];





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- jj. "Combat between Rabī and Warqah's father" [f.13/15a];
- kk–ll. "Combat between Gulshāh and Qālib" [f. 26/25b];
- mm. "Battle between Banū Zabbah and Banū Shaybah" [f.9/11a];
- nn. "Warqah recites a poem over the body of his father" [f.15/16b];
- oo. "Combat between Rabī and Warqah's father" [f.13/15a];

Figure 127. Perseus with Medusa's head, relief carving on a buttress of the broken or unfinished Tigris bridge south of Jazīrat Ibn cUmār, Atabeg north-eastern Syria, mid- to late 12th century (*in situ* cAyn Dīwār, Syria).

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Figure 129. Mail-armoured cavalryman on a mail-armoured horse, carved capital, Castilian Iberia, late 12th century (*in situ* Church of San Lorenzo, Vallejo de Mena, Burgos, Spain).

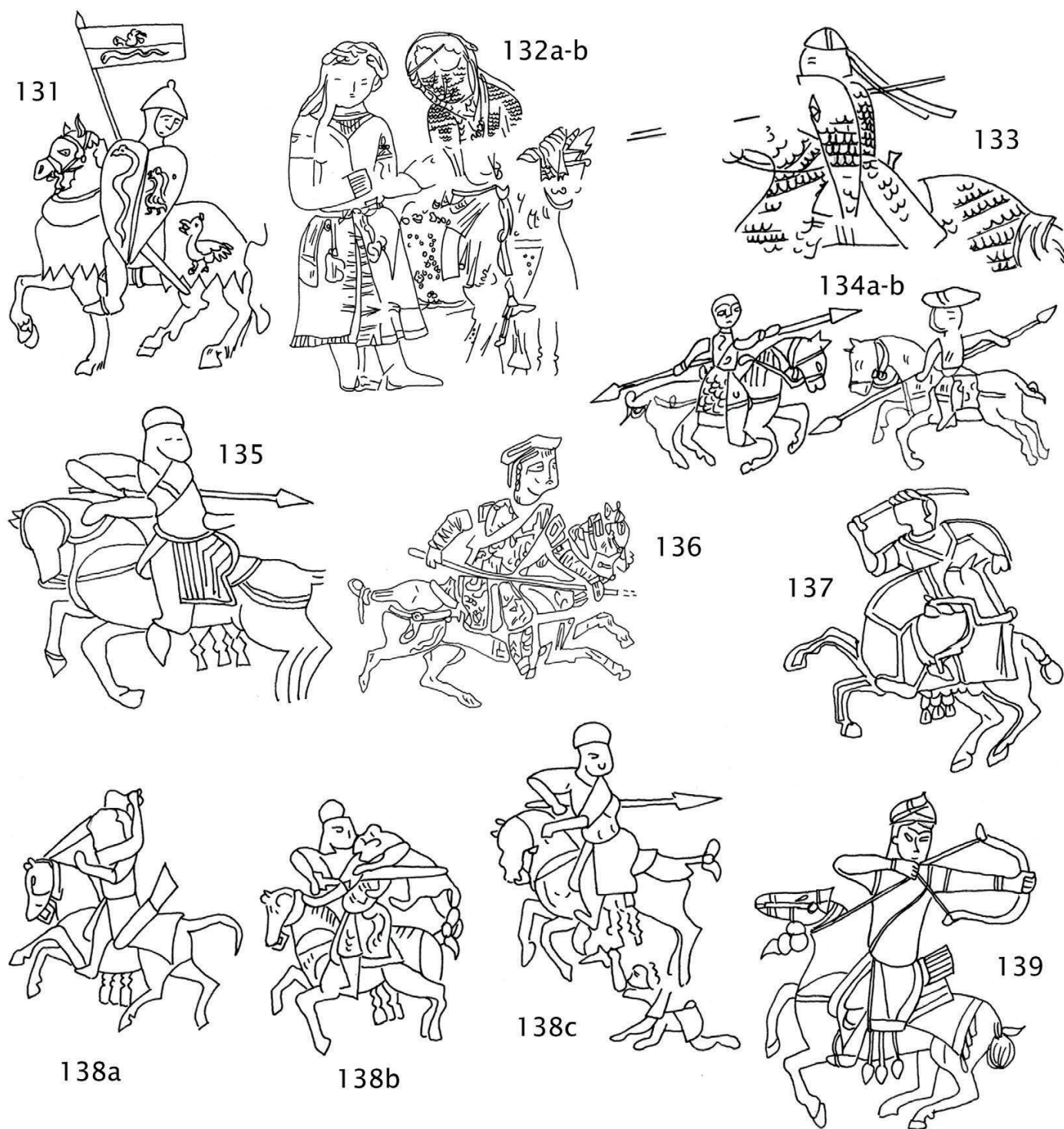
Figures 130a–d. Stone relief carvings of cavalrymen, Hoysala south-west Indian, 12th–13th centuries (*in situ* Halebidu [a–b] and Somanathapura [c–d], India).



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Figure 131. Seventeenth or eighteenth century drawing of a now lost floor mosaic showing donors of the aristocratic Paparone family, originally in the Church of Santa Maria Maggiore, Rome, 12th century (Vatican Library, Ms. Barberiano-Latino 4333, f.6, Rome, Italy).

Figure 132. Damaged wall painting of a man on foot and a horseman with mail armour and a face-covering mail aventail, late 12th–early 13th centuries (private collection, Berlin, reportedly destroyed in World War Two).

Figure 133. Damaged wall painting of a horseman with a mail hauberk, riding a horse with a possibly mail caparison (*in situ* Church of Sts. Peter and Paul, Coincy, France).

Figures 134a–b. Horsemen in combat with double-ended spears, silver-inlaid brass pen-box, probably Iran, 1281 AD (British Museum, inv. no. 91.6–23.5, London, UK).

Figure 135. Horseman on an inlaid bronze candlestick, Seljuqid Iran, 1225 AD (Museum of Fine Arts, inv. no. 57.148, Boston, USA).

Figure 136. Horseman on a silver-inlaid bronze pot, probably Seljuqid Iran, 13th century (Furusiyya Art Foundation, London, UK).

Figure 137. Horseman on an inlaid brass tray, Mongol north-western Iran, late 13th century (British Museum, inv. OA.1878.12-30.706, London, UK).

Figures 138a–c. Scenes of hunting and combat on an inlaid bronze candlestick made by al-Dhakī and Ibn Jaldak, 1225 AD (Museum of Fine Arts, Boston, USA).

Figure 139. Horse-archer on an inlaid bronze ewer made by Yūnus Ibn Yūsuf al-Mawṣilī, northern Iraq or Syria, 1246/7 AD (Walters Art Gallery, inv. no. 54.456, Baltimore, USA).



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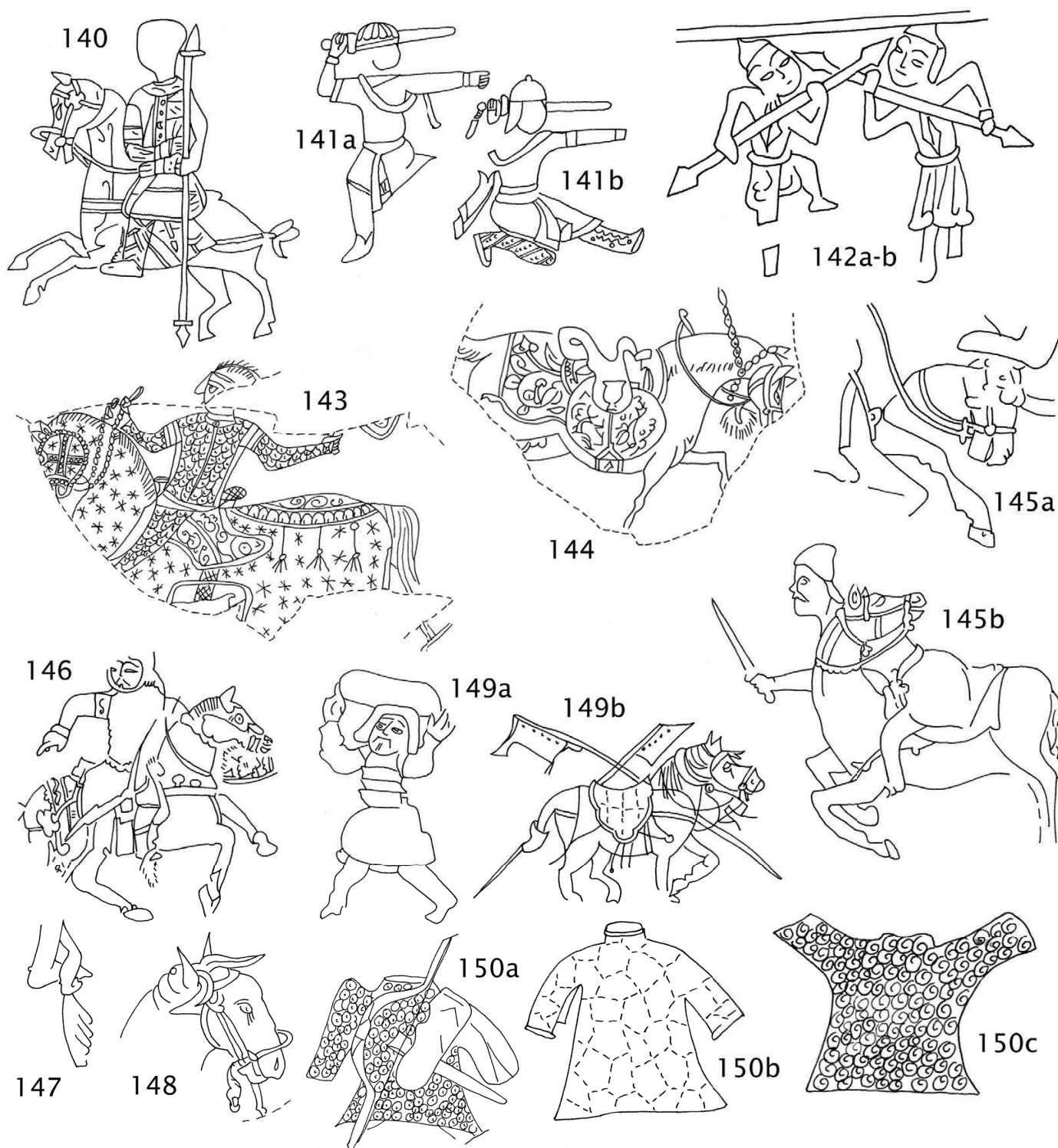


Figure 140. Horseman with a double-ended spear [note that the cross-gartering on legs suggests he is a mounted infantryman] on an inlaid bronze candlestick, probably Azarbayjan or Seljuqid Anatolia, late 13th century (Musée du Louvre, inv. Koechlin Collection 3436, Paris, France).

Figures 141a–b. Inlaid zodiac figures on the back of a steel mirror, Syria or Seljuqid Anatolia, late 13th century (Topkapi Museum, Istanbul, Turkey).

Figures 142a–b. Foot-soldiers in combat with double-ended spears, inlaid bronze cup, probably Azarbayjan, c.1220 AD (“The Wade Cip”, Museum of Art, Cleveland, USA).

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Figures 145a–b. Horsemen in combat on an embossed or relief glazed ceramic vase, perhaps Syria or Seljuqid Anatolia [labeled as from Iran], 13th century (National Museum, Damascus, Syria).

Figure 146. Horseman on a fragment of a minai-ware ceramic bowl, late Saljuqid Iran, 13th century (Museum of Islamic Art, Cairo, Egypt).

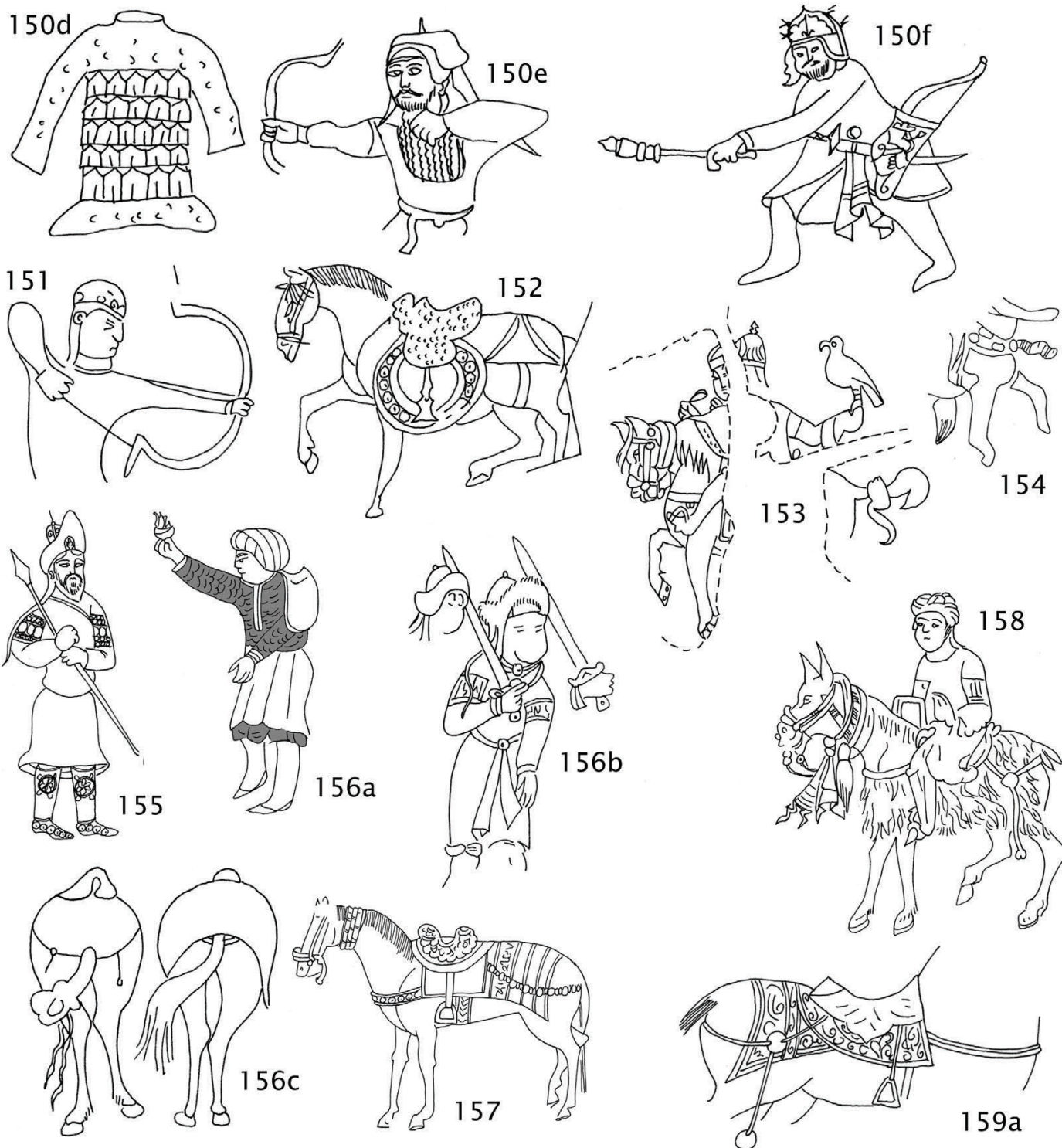
Figure 147. Man riding with a decorated stirrup, glazed ceramic fragment, Iran, 13th century (private collection).

Figure 148. Head of a bridled horse on a lustre ceramic bowl from Rayy, Iran, late 13th century (Metropolitan Museum of Art, inv. no. 16.87, Rogers Fund 1916, New York, USA).

Figures 149a–b. Illustration of Rustam freeing Bihzād and other episodes from the *Shāhnāmāh*, on a glazed ceramic beaker from Rayy, Seljuqid Iran, early 13th century (Freer Gallery of Art, Washington, USA).

Figures 150a–f. Illustration of an assault upon a castle with named figures [unidentified event], Iran, probably c.1228 AD (Freer Gallery of Art, inv. no. 43.3, Washington, USA):
a–d. four armours and a set of archery equipment stored on top of the castle [a & c are mail shirts or hauberks, b may be a mail-lined *kazāghand* or scale-lined *qarqal*, d is a lamellar cuirass apparently attached to a long-sleeved garment or armour];





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- e. one of the senior warriors attacking the castle;
- f. armoured huntsman from the exterior of the bowl

Figure 151. Archer on a relief ceramic tile, perhaps from Kāshān, Iran, 13th century (Museum für Islamische Kunst, Berlin, Germany).

Figure 152. Saddled horse on a ceramic tile, Mongol-Iran, 1250–1300 AD (British Museum, inv. OAG. 1983.212.229, London, UK).

Figure 153. Mounted falconer on three fragments of a glazed ceramic wall-tile from the Citadel of Konya, Seljuqid Anatolia, 13th century (Ceramics Museum, Konya, Turkey).

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Figure 157. Saddled horse in a copy of the *Maqāmāt of al-Ḥarīrī*, Iraq, 1242–58 AD (Süleymaniye Library, Ms. Esad Effendi 2916, Istanbul, Turkey).

Figure 158. Man riding an ass with an apparent sheepskin caparison or oversized saddlecloth in a copy of the *Maqāmāt of al-Ḥarīrī*, Iraq or Syria, 1237 AD (Bibliothèque Nationale, Ms. Arabe 3929, f. 117, Paris, France).

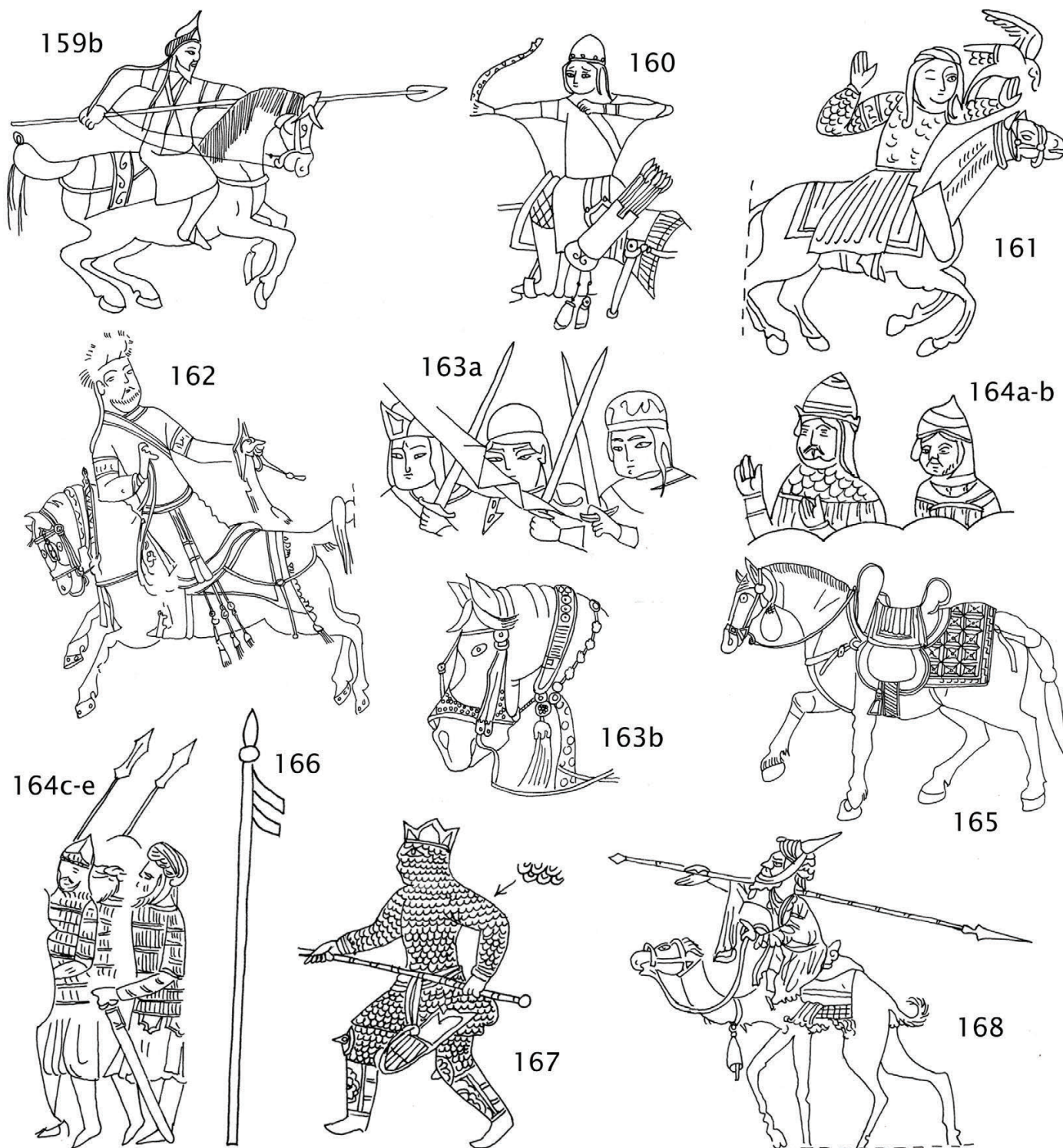
Figures 159a–b. Saddled horse and rider training a horse for combat, in a copy of the *Kitāb al-Bayṭarah*, Iraq or Syria, 1210 AD (Topkapi Library, Ms. Ahmed III 2115, Istanbul, Turkey).



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Figure 160. One of the warriors on the frontespiece of the *Kitāb al-Tiryāq* manuscript, northern Iraq, early 13th century (National Library, Ms. AF.10, Vienna, Austria).

Figure 161. Mounted falconer wearing a mail hauberk or shirt, frontespiece to an unidentified manuscript, probably northern Iraq, early 13th century (Hans P. Kraus Collection, New York, USA).

Figure 162. Badr al-Dīn Lu'lu', Atabeg ruler of Mosul, on the frontespiece to volume 2 of the *Kitāb al-Aghānī*, Mosul, northern Iraq, 1219 AD (Royal Library, inv. no. ms. Cod. Arab 168, Copenhagen, Denmark).

Figures 163a–b Ruler's guards and a bridled horse on the frontespiece to a volume of the *Kitāb al-Aghānī*, Mosul, northern Iraq, 1217 AD (Millet Library, ms. Feyzullah Effendi 1565–1566, Istanbul, Turkey).

Figures 164a–e. Soldiers listen to John the Baptist preaching [a–b], and soldiers at the Betrayal [c–e] in a Syriac Gospel Book, perhaps made in Mosul, 13th century (Vatican Library, Ms. Syr. 559, ff.28r and 133v, Rome, Italy).

Figure 165. Saddled horse in a copy of the *Kitāb al-Bayṭarah*, Ayyūbid Egypt, 1210 AD (Istanbul University Library, inv. 4689, Istanbul, Turkey).

Figure 166. Spear with two small pennons or streamers, in the *furūsiyah* treatise by Ḥassan al-Ramah, Mamlūk Egypt or Syria, late 13th or early 14th century (Bibliothèque Nationale, Ms. Arabe 2825, Paris, France).

Figure 167. Warrior figure with a full mail hauberk, face-covering mail aventail or coif, mail and plated leg armour [perhaps overpainted or restored at a later date], *Manāfi al-Ḥayawān* manuscript from Maragha, Mongol north-western Iran, 1294–99 AD (Pierpont Morgan Library, Ms. 500, New York, USA).

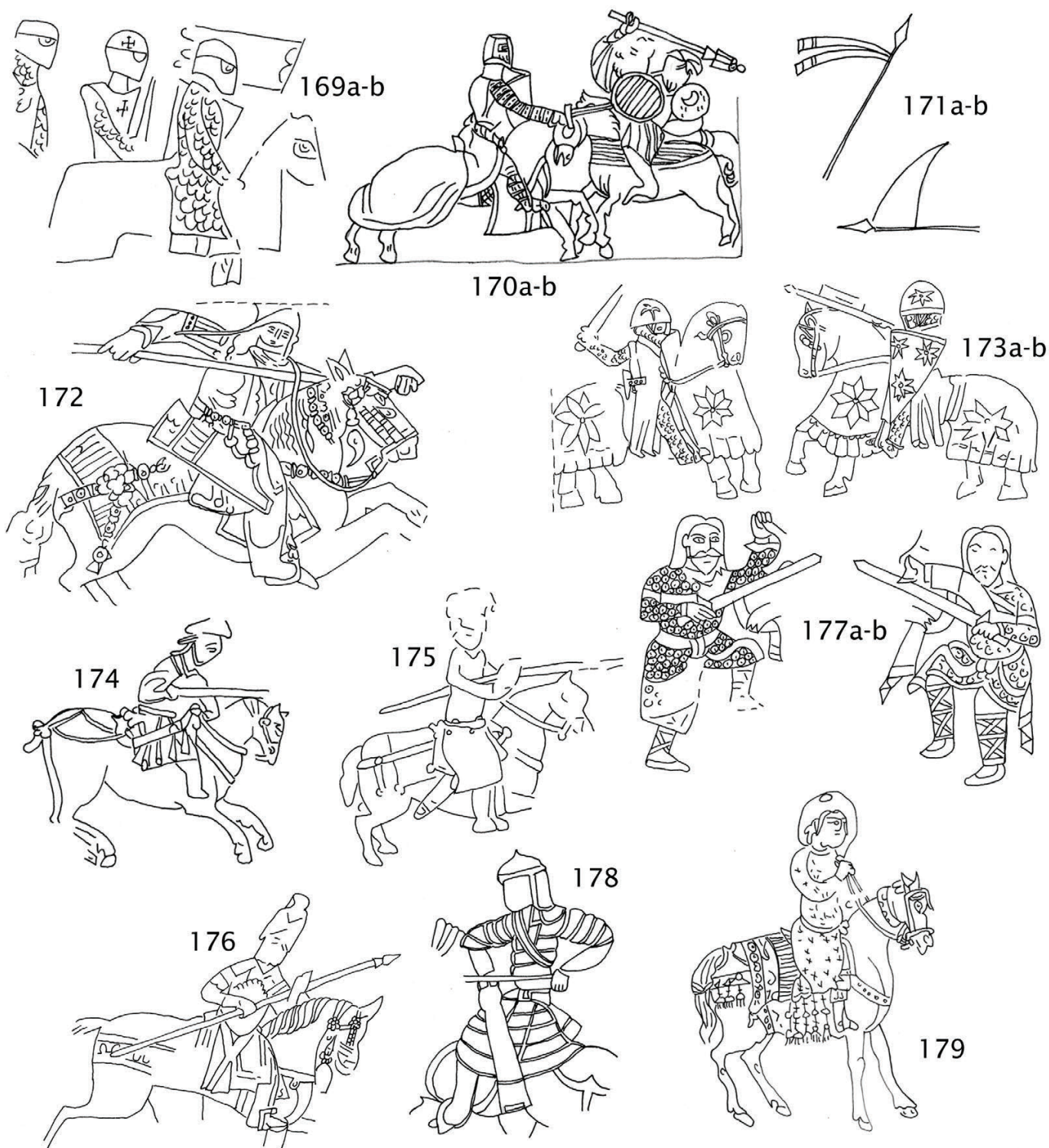
Figure 168. Arab bedouin with long, double-ended, bamboo-hafted spear, in a copy of the *Maqāmāt of al-Ḥarīrī*, Iraq or Syria, 1237 AD [see also figure 158] (Bibliothèque Nationale, Ms. Arabe 3929, Paris, France).



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Figures 169a–b. The First Crusade besieging Antioch, in the *Universal History of William of Tyre*, Crusader Principality of Antioch, 1250–68 AD (Vatican Library, Pal, Lat. 1963, f.40r, Rome, Italy).

Figures 170a–b. Crusaders attacking Shayzar, in the *Universal History of William of Tyre*, Crusader Acre, c.1280 AD (M.E. Saltykov-Shchedrin State Public Library, Ms. Fr. fol.v.IV.5, f.129r, St. Petersburg, Russia).

Figures 171a–b. Spear pennons of Amazons [upper] and Alexander [lower], in the *Universal History of William of Tyre*, Crusader Acre, late 13th century (Bibliothèque Municipale, Ms. 562, f.86v, Dijon, France).

Figure 172. Cavalry warrior on a carved stucco panel, Seljuqid Iran, early 13th century (Art Institute of Chicago, Ryerson Collection inv. 1926.1218, Chicago, USA).

Figures 173a–b. Confronted cavalymen on a carved stone relief from the house of Genaioli and Sansepolcro, northern Italian, 1225–75 AD (Pinacoteca Comunale, San Sepolcro, Italy).

Figure 174. Carved relief on the Cross of Amenaprkich, from the Arafat region, Armenian, 1279 AD (Religious complex of the Mother See of the Holy Etchmiadzin Cathedral, Vagharshapat, Armenia).

Figure 175. Carving of a cavalryman with a sword beneath his saddle, from Nişibîn, Artuqid Jazīra, early to mid-13th century (Archaeological Museum, Ankara, Turkey).

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Figures 177a–b. Relief carving of warriors wearing mail hauberks and fighting dragons [cross-gartering on their legs suggests that they are infantrymen], Turco-Kurdish northern Iraq, 1233–59 AD (*in situ* Bāb Mawṣil gate, cAmādiyah, Iraq; from a photograph taken before the collapse and subsequent reconstruction of the gate¹⁷⁶).

Figure 178. Fully armoured cavalryman on an inlaid brass tray, Mamlūk Egypt, late 13th–early 14th centuries (Museum of Islamic Art, Cairo, Egypt).

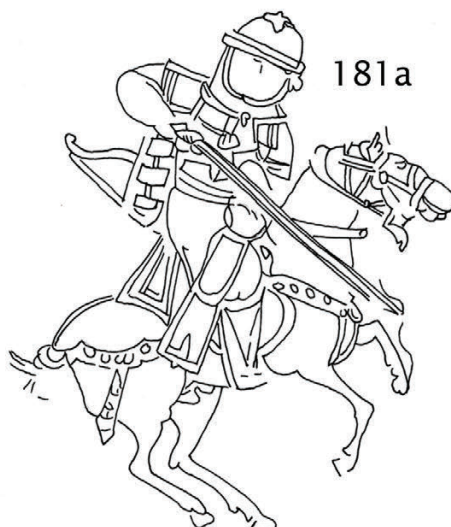
Figure 179. Horseman on a fragment of textile, Seljuqid Iran, 13th century (private collection, Los Angeles).

¹⁷⁶Janabi, T. al-, *Studies in Medieval Iraqi Architecture* (PhD thesis, Edinburgh University, 1975) 175.

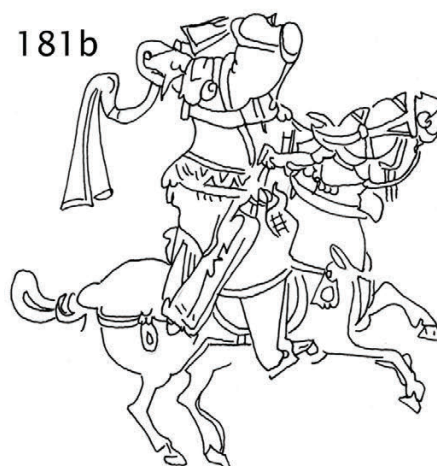




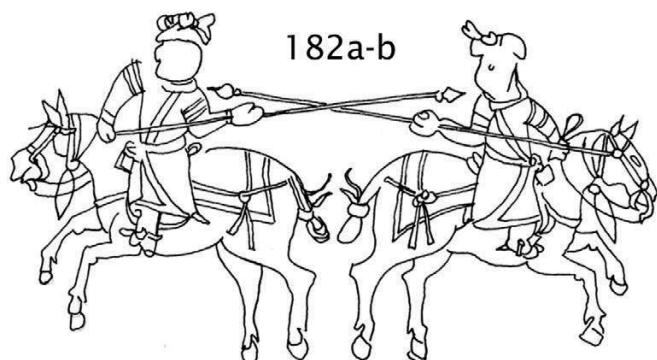
180



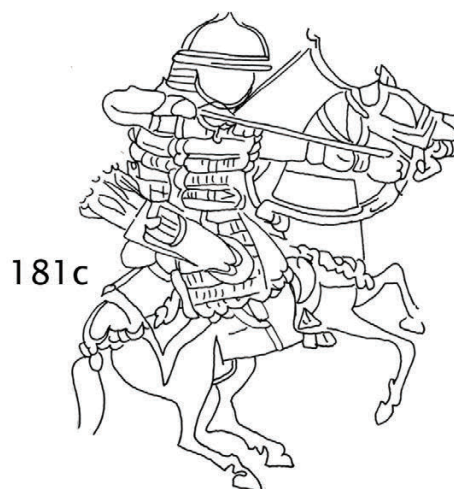
181a



181b



182a-b



181c



183



184



185



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Figure 180. Seated warrior in lamellar armour, on an inlaid brass basin made for King Hugh de Lusignan of Cyprus, Mamlūk Egypt, early 14th century (Musée du Louvre, Paris, France).

Figures 181a–c. Cavalrymen on an inlaid brass tray made by Aḥmad Ibn Ḥusayn al-Mawṣilī for the Rasūlid Sultan Dāwūd of Yemen, Mamlūk Egypt, c.1300–20 AD (Metropolitan Museum of Art, Edward C. Moore Collection, inv. 91.1.602, New York, USA).

Figures 182a–b. Cavalry training in the use of the lance in a copy of the *Nihāyat al-sūl wa’l-umnīyah fī taclīm acmāl al-furūsīyah* military training manuscript attributed to Muḥammad Ibn cīsā Ibn Ismācīl al-Ḥanafī, Mamlūk Egypt or Syria, 1371 AD (British Library, Ms. Add. 18866, f.97a, London, UK).

Figure 183. Gushtasp killing a dragon [chamfron element of the horse-armour highlighted in grey], in a copy of the *Shāhnāmah* from Shīrāz, Mongol-ruled southern Iran, 1341 AD (Freer Gallery of Art, inv. no. 48.15, Washington, USA).

Figure 184. Mail armoured cavalryman riding a lamellar armoured horse in the *Samak-i cAyyār* manuscript, Mongol-ruled western or southern Iran, early 14th century (Bodleian Library, Ms. Ouseley 381, f. 39v, Oxford, UK).

Figure 185. Warrior with a lamellar cuirass and face-covering mail aventail, in the the *Shāhnāmah*, probably Mongol-ruled central Iraq, early 14th century (*Schulz Shāhnāmah* Metropolitan Museum of Art, Ms. 1974.2890.1, New York, USA).



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