The Zangid bridge of Ğazīrat ibn ʿUmar (ʿAyn Dīwār/Cizre): A New Look at the carved panel of an armoured horseman

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Previous Studies

Many scholars and historians have made reference to the remarkable if largely ruined bridge which either spanned, or was intended to span, the river Tigris a few kilometers downstream from what is now the Turkish frontier town of Cizre (**figures 1-5**). However, they were obliged to rely upon the work of Conrad Preusser who studied this ruined bridge, as well as other historical structures in the area, early in the 20th century. His findings, photographs and drawings were published a few years before the outbreak of the First World War (PREUSSER 1911). The famous British traveller, archaeologist and spy, Gertrude Bell, was also active in this part of the Middle East, her photographs forming an invaluable archive now held by Newcastle University Library in England (**figures 6 & 9**). The fact that no major archaeological or survey work appears to have been undertaken on the bridge, or its remarkably well preserved carved limestone panels, highlights not only the location of the bridge – a few hundred meters inside Syria, within sight of the Turkish frontier and almost as close to the Iraqi frontier – but also the troubled history of this region since the days of Preusser and Bell.

Of course, other scholars have discussed the bridge, which is sometimes named after the closest town, Cizre in Turkey or the closest village ʿAyn Dīwār in Syria. They include Abdullah Yaşin, a teacher from Cizre whose book, *Bütün yönleriyle Cizre* (YAŞIN 1983), covered virtually every aspect of his town's history but had a limited circulation.[1] More recently Estelle Whelan's monumental work, *The Public Figure. Political iconography in medieval Mespotamia* (WHELAN 2006), also discussed the bridge and its carvings.[2] Yet both of these scholars had to rely upon Conrad Preusser's photographs.

1 I remain hugely grateful to Abdullah Yaşin who sent me a signed copy of his work after I had passed through Cizre for the second time, in 1987.

2 I would like to thank my colleague, Prof. Stéphane Pradines, for persuading the library of his institution, the Aga Khan University in London, to acquire a copy of this monumentally expensive tome, and for allowing me to consult it.

Preusser's description and his conclusions concerning the bridge and its carved panels may be summarized as follows (PREUSSER 1911, p. 26-28). Twenty minutes downstream from Cizre (still known by its original medieval Arabic name of Ğazīrat Ibn ʿUmar when Preusser visited) stood the ruins of a great bridge which once spanned the Tigris river in a series of broad arches (some later scholars have suggested that the bridge was never completed; see below). There may have been five such arches, though only one survived by the early 20th century, as it still does. Preusser waxed lyrical about the architectural and sculptural treasure which was the remaining structure. He described the waves of the river – then presumably in flood and, of course, uninterrupted by modern dams – which lapped against the piers of the great bridge.

The carved panels stood out clearly in the sunlight, and Preusser assumed the existence of carvings or other comparable forms of decoration on at least some of the other piers, though nothing now remained or, perhaps, had never been completed. He then described an abstract decoration formed of light and dark stonework on the upstream side of the western pier or support of the surviving arch (**figure 5**). The bridge itself was faced with dark ashlar blocks of basalt which contrasted with the lighter carved panels of limestone. Meanwhile the inner core of the supporting piers and remaining arch consist of cemented rubble.

The downstream side of the western pier of this surviving arch was, and still is, decorated with a remarkable sequence of eight carved panels forming, in effect, a semicircle (**figures 3-6**). Each panel was approximately 1.2 metres wide, 1 metre high and bore zodiac emblems in high relief surrounded by a rim or frame which was approximately 20 centimetres wide. In direct sunlight the contrast between the almost limestone of these carved panels, and the dark volcanic basalt clearly impressed Preusser and remains striking to this day (**figures 9-30**).

Despite being more weather-beaten than the hard basalt, the limestone panels were – and largely remain – in a remarkable state of preservation. Not only can their subjects be identified, but a considerable amount of detailed carving endures, along with several brief Arabic inscriptions. Preusser described the subjects going from right to left; that is in a clockwise direction if seen from above. Subsequent descriptions have done the same, and have also been more specific in their identifications. Thus E. Herzfeld (1920, p. 138-139) and W. Hartner (1938, p. 112-154) list the panels as follows: 1 - Saturn and Libra (**figures 10-12**); 2 - Jupiter and Cancer (**figures 13-14**); 3 - Mars and Capricorn (**figures 15-20**); 4 - the Sun and Leo (**figures 21-22**); 5 - Venus and Pisces (**figures 23-24**); 6 - Mercury and Virgo (**figures 25-26**); 7 - the Moon and Taurus (**figures 27-28**); 8 - Sagittarius and, being badly damaged, an unidentified serpent (**figures 29-30**).

Panel 3 would appear to have been more misunderstood than any of the others. For example, Preusser, being unable to photograph and perhaps even to view all of the carvings from a close and convenient angle, mistakenly thought that panel 3 with the mounted figure (identified as Mars), also included a scorpion. Subsequently Herzfeld, followed by Hartner, believed that this figure was "riding on Capricorn". The latter is normally represented by

a cloven-hoofed goat, whereas a closer inspection of this carving shows that the armoured figure is riding upon a perfectly normal horse (see below) but was facing a goat. Sadly Whelan's unavoidable reliance upon Preusser's inadequate photographs meant that she partially misinterpreted panel 3, stating that (WHELAN 2006, p. 424):

> "This time it is the planet image (Mars) that is to the viewer's right. Mars is clad in helmet and chain mail and mounted on a horse. In his right hand he brandishes a sword behind his head, while his left hand holds up a severed head by its hair (or perhaps helmet plumes)".

Up to this point Whelan was correct, but then the inadequate pictorial information led her astray (WHELAN 2006, p. 424-425):

> "Mars has two additional arms; the right hand holds a dagger across his body (actually the rider's right leg because he is seated side-saddle [see below], plus a very substantial spur), and the left, which is extended to the rear beneath the severed head, also seems to grasp a dagger.[3] The horse is trotting, though the hind legs have been largely destroyed. The reins of the curb bit are at rest on its neck, but, because of the angle at which Preusser's photograph was taken, we can say nothing further about the trappings. A triangular hillock separates the horse from a small goat with long, curving horns, which rests its forefeet on the summit".

In Islamic astrology Mars, or al-Mirriḫ, would often be shown with a sword and a severed head, though more rarely riding a horse. The ancient Graeco-Roman God of War had thus been conflated to some degree with the ancient Graeco-Roman hero Perseus who was shown in astronomical and astrological sources holding a sword and the severed head of Medusa - though again not riding a horse. This was true of a particularly fine copy of the *Kitāb al-Sufār* "Book of Fixed Stars" made in 529 AH (1134/5 AD) in the Artuqid city of Mārdīn,[4] only a few years before the Tigris bridge at ʿAyn Dīwār and only kilometres from the location of the bridge.

The remaining arch of the bridge near ʿAyn Dīwār was, according to Preusser's measurements, 8.3 metres wide, 21.6 metres across the span, and reached approximately 13.40 metres from the ground. The piers of the missing arches were little more than shapeless masses of rubble masonry with little of their basalt surfaces remaining. Yet it was clear that the first arch from the river's bank to the surviving arch was smaller in dimensions, spanning some 15.5 metres. Using what remained of the other piers, Preusser drew a reconstruction of the bridge which indicates that it would have been a truly impressive structure with five arches, the central span of which probably reached a height of 28 metres.

Conrad Preusser apparently assumed that this massive bridge had been completed, and that its subsequent ruined state was a result of mistakes in its design as well as the action of the Tigris in times of spate and, perhaps, a lack of maintenance. In fact his criticism of the original design went into considerable detail, focussing upon what he regarded as the

3 In her note 162, Whelan (2006) wrote: «We know of only one other instance of Mars represented with additional arms; on the lid of the Vaso Vescovali in the British Museum, Mars, as well as several other planets, has additional arms». See HARTNER 1973-74, p. 118, fig.16.

4 Topkapi Library, Ms. Fatih 3422, Istanbul.

inadequate strength of the piers given the fact that they were largely resting upon the alluvial flood-plain and bed of the river Tigris.

The apparent lack of scholarly and archaeological interest in the Tigris bridge south of Cizre (Ǧazīrat Ibn ʿUmar) was already noted by W. Hartner (1938, p. 114) when he bemoaned the fact that:

> "Few archaeologists seem to have found it worth while to visit this place and therefore no really good photographs of the badly damaged reliefs have so far been taken".

What is perhaps more surprising is the fact that E. Whelan still had to rely on Preusser's indistinct photographs at the start of the 21st century. This may have been a particular drawback when it came to interpreting the damaged inscriptions on the carved panels.

The History of the Bridge

The passage of almost a century, seemingly without recorded scholarly visits to the bridge, perhaps accounts for the fact that it is sometimes said to be of Roman origin. In fact the structure is so monumental that some sources, without real evidence, apparently assume that it cannot have been the work of mere medieval Islamic civil engineers.[5] Such errors would surely have been avoided if E. Whelan had been able to visit or photograph the site when she came within a kilometre or so in 1975.

More is, in reality, known of the history of the bridge. It is located in a territory which played a significant role during the early Islamic period, and even more so during struggles against the Crusades in the 12th and early 13th centuries AD. It is located within a province called Diyār Rabīʿa in medieval times. It lays in the north-eastern part of a broader region known as the Ǧazīra (the Mesopotamia of classical times). Until the 12th or 13th centuries AD the majority of its rural, and perhaps also of its urban population, remained Christian though under an Arabic-speaking, local Muslim élite descended from the frontier garrisons of the early Islamic period (7th -9th centuries AD). The lowlands plains of Diyār Rabīʿa were dominated by partially nomadic, partially settled Arab tribes who were, of course, Muslim, while the uplands were largely inhabited by partially nomadic, Kurdish Muslim tribes. The area was very fertile, as it remains to this day, being famous for orchards and vineyards in medieval times. This was also a prosperous, mercantile part of the pre-Mongol Islamic world, being criss-crossed by major trade routes, the most important of which ran east-west. Hence the importance of fords, ferries and bridges across various rivers large and small which essentially flowed from north to south, from the highlands of eastern Anatolia, through the Ǧazīra into Iraq.

Following the Seljuk Turkish conquest of Iran and the Fertile Crescent, as well as much of Byzantine Anatolia, many Turcoman tribal groups moved into the Ǧazīra and Anatolia during the later 11th and 12th centuries. Meanwhile, the overall control of these regions by the Great Seljuk Sultanate declined following the death of Sultan Muḥammad

5 The bridge is not mentioned by either O'CONNOR 1993, or by GALLIAZZO 1994.

in 511 AH (1118 AD). The establishment of small Crusader States in western Syria and Palestine at the start of the 12th century had little direct impact upon Diyār Rabīʿa or upon the Diyār Bakr region higher up the Tigris basin. On the other hand, Diyār Muḍar, which was the westernmost major province of the Ǧazīra, was partially occupied by the aggressive Crusader County of Edessa. However, the Zangid and Artuqid states which emerged from the fragmentation of the Great Seljuk Sultanate in the Diyār Rabīʿa and Diyār Bakr respectively, were both highly militarized and highly cultured. Both would play a significant role in early struggles against the Crusaders, but they were at the same time great rivals. Both looked east, to Turkish ruled Iran, for their cultural and religious identities, and for administrative systems based upon those of the Great Seljuk Sultanate. While the Artuqids would be great patrons of architecture and the arts (MEINEKE 1996), they appear to have had a less highly developed court life than was seen in Zangid Mosul, or indeed in similarly Turkish, post-Seljuk, Būrid Damascus.

Lying close to the frontier between the Zangid Diyār Rabīʿa and the Artuqid Diyār Bakr, though normally under the control of the former, the important town of Ǧazīrat Ibn ʿUmar (now Cizre) stood on a bend in the river Tigris, at a point where the river could be crossed by ferry. This point also marked the furthest upstream that cargo boats of any significant size from Mosul or Baghdad could normally reach. However, what was originally a bend in the river had become an island when a canal was cut across this bend. It is said to have been built by al-Ḥaṣan Ibn ʿUmar who is traditionally regarded as the founder, or perhaps more correctly the reviver, of this settlement on a bend of the river Tigris. He was a powerful personage in the Banū Taġlib Arab tribe which predominated in this area, and he died around 251 AH (865 AD). His canal eventually became the main course of the Tigris while the river's old course silted up.

A small bridge which crossed the Tigris at Ǧazīrat Ibn ʿUmar itself may have been of pre-Islamic, perhaps Roman, origin. It seems to have consisted of a series of small arches, or perhaps piers supporting a timber walkway, and was presumably considered inadequate or too prone to damage during the river's annual flood. It would also clearly have been a barrier to navigation further upstream (**figures 7-8**).

Running westward from Ǧazīrat Ibn ʿUmar was an old Roman road, known in Arabic as the *darb ʿatīq*, linking the town to the significant Artuqid centre of Mārdīn, eventually crossing the river Euphrates before heading for Aleppo, Antioch and the Mediterranean coast. One way or another, Ǧazīrat Ibn ʿUmar was a centre of considerable strategic and commercial importance and, not surprisingly, had been fortified since at least the 10th century. Hence the Zangid rulers of Mosul tended to provide it with a formidable garrison and loyal governors. One such was ʿIzz al-Dīn Abū Bakr al-Dubaysī, a powerful *amīr* who was appointed to the post in 541 AH (1146/7 AD) and remained there for several years. Nevertheless, ʿIzz al-Dīn Abū Bakr al-Dubaysī was probably no longer in post when a new and far more ambitious bridge was constructed over the Tigris a few kilometres downstream from Ǧazīrat Ibn ʿUmar's inadequate old bridge.

The chronicler Ibn al-Aṯīr was born in Ǧazīrat Ibn ʿUmar and would have been a child at the time the building began. The project was sponsored by the *wazīr* or chief minister of Quṭb al-Dīn Mawdūd Ibn Zangī, the Zangid ruler of Mosul from 544 to 565 AH (1149/50-1169/70 AD). This man, named Ǧamāl al-Dīn Muḥammad al-Iṣfahānī Ibn ʿAlī Ibn Abī Manṣūr, nevertheless died in 559 AH (1163/4 AD) before his great bridge was reportedly completed. To quote Ibn al-Aṯīr (*Chronicle* [*al-Kāmil fī al-tārīḫ*], p. 152):

> "Among his remarkable building projects which are without parallel was the bridge which he built over the Tigris at Ǧazīrat Ibn ʿUmar with dressed stone, iron, lead and lime. He passed away before its completion. Nearby he built another bridge in the same fashion over the river known as al-Aryār".

Another version of this text names the location of Ǧamāl al-Dīn's second bridge as the river known as al-Aryād (Ibn al-Aṯīr, *Chronicle*, p. 152, footnote 16). The chronicler's father, who was then in charge of the *dīwān* or consultative council in Ǧazīrat Ibn ʿUmar, knew the *wazīr* Ǧamāl al-Dīn Muḥammad al-Iṣfahānī personally and so we may assume that Ibn al-Aṯīr's information is reliable. Such a project would clearly have suited such an ambitious man. It may, indeed, have contributed to Ǧamāl al-Dīn Muḥammad's eventual overreaching of himself, as he was arrested in 558 AH (1162/3 AD) and remained in prison for about a year before his death.

Before his fall from favour, the *wazīr* had been one of the most important officials employed in high positions by Zangī and his sons, Sayf al-Dīn Ġhāzī and Quṭb al-Dīn Mawdūd (Ibn al-Azraq, *A Muslim Principality* [*Tārīḫ Mayyāfāriqīn*], p. 117, footnote 55). His full name was Ǧamāl al-Dīn al-Mustawfī Muḥammad Ibn ʿAlī al-Iṣfahānī and, as ʿImād al-Dīn Zangī's *wazīr*, he had been present during the siege of Qalʿat Ǧaʿbar when Zangī was murdered in 541 AH (1146/7 AD). He remained as *wazīr* when Sayf al-Dīn Ġāzī took over power in Mosul and again after Sayf al-Dīn died in 544 AH (1149/50 AD), to be succeeded by his brother Quṭb al-Dīn Mawdūd. In fact the latter was effectively put in power by Ǧamāl al-Dīn al-Iṣfahānī and his close associate, Zayn al-Dīn ʿAlī the commander of the *'askar* or élite regiment of household troops. Here it is worth noting that the heavily armoured horseman carved on panel 3 of the bridge at ʿAyn Diwar in all likelyhood reflected the appearance of a member of an élite ʿ*askar* at the time when Ǧamāl al-Dīn al-Iṣfahānī was *wazīr.*

The great *wazīr* was, in fact, still held in such high regard that his body was transferred from its initial resting place to al-Madīna, where it was reburied close to the Prophet's Mosque. Saladin's uncle and patron, Asad al-Dīn Šīrkūh, had been a close colleague of Ǧamāl al-Dīn Muḥammad and paid a substantial sum for the late *wazīr's* transfer to al-Madīna. He covered the costs not only of the move and reburial, but also enabled several people to accompany the cortege, making the *Ḥajj* pilgrimage on behalf of Ǧamāl al-Dīn. Šīrkūh's donation similarly enabled others to recite the Quran before the dead man's bier. According to Ibn al-Aṯīr (*Chronicle*, p. 151):

> "When he came to a town these reciters would enter proclaiming prayers for him and he would be prayed for in every place they passed through.... In every town, crowds beyond numbering

gathered to honour him. When they wished to pray for him in Ḥilla, a young man climbed to a high place and recited at the top of his voice:

> His bier travelled over people's necks;
> Often his liberality and his benefits travelled above the cavalcade.
> He passed through a valley and its sands praised him
> And by a gathering and the widows there praised him".

Ibn al-Aṯīr maintained that: "We have never seen as much weeping as on that day". He then recounted Ǧamāl al-Dīn Muḥammad al-Iṣfahānī's famous generosity and his long public service, listing several charitable building projects, which were mostly religious in nature and which were actually completed, before turning to the *wazīr*'s project to build a new and far larger bridge over the Tigris near Ǧazīrat Ibn ʿUmar. This, it would seem, never reached fruition (WHELAN 2006, p. 38). In 571 AH (1175/6 AD) Ǧamāl al-Dīn Muḥammad's son, Ǧalāl al-Dīn, also became *wazīr* at the age of twenty-five but soon made political enemies, being arrested and thrown out of office just over two years later, before falling ill and dying at the age of only twenty-seven. When he attempted to continue work on his father's great bridge is unknown.

The threat posed by the Crusader states undoubtedly resulted in growing enthusiasm for the jihad in both the Zangid and Artuqid realms during the 12th century. It eventually undermined the atmosphere of religious toleration which had largely characterised this part of the Islamic heartland since the 7th century AD. Even so, local political and military efforts were just as likely to focus upon local rivalries, and upon the threat to local autonomy posed by the rise of Saladin and his Ayyubid successors. In fact, Ǧazīrat Ibn ʿUmar would be one of a shrinking number of major towns, including Naṣībīn, Sinǧār and Mosul itself, which remained under Zangid control following failure by the Zangid rulers of Mosul to expel Ayyūbid garrisons from the western Ǧazīra during the final years of the 12th century and the first of the 13th.

Like their neighbours, the Artuqids of the Diyār Bakr region, the Zangids were now weak, fragmented and vulnerable, though highly militarized. Outposts such as Ǧazīrat Ibn ʿUmar still had effective, well equipped though small garrisons which, when they combined, could prove formidable. Ǧazīrat Ibn ʿUmar itself, of course, remained a strategically important location, especially as a river-crossing. This would soon be seen when Mongol hordes under Hülegü appeared on the scene. Indeed it was the fact that Ǧazīrat Ibn ʿUmar was in friendly hands, being governed by a son of Badr al-Dīn Lu'lu' the current ruler of Mosul, which enabled Hülegü to invade Syria with such apparent ease in 657 AH (1259 AD).

In such circumstances it hardly seems surprising that work was not continued upon the *wazīr* Ǧamāl al-Dīn Muḥammad al-Iṣfahānī's seemingly unfinished bridge. Or perhaps Conrad Preusser was more perceptive than the chronicler Ibn al-Aṯīr, and the great bridge did indeed have fundamental design faults. Whatever the truth, this monumental structure still stands as a testament to the endeavours of one of the most successful and popular *wazīrs* of the 12th century. Of course it was not alone. There are several other bridges dating

from around this period, some still standing while others lie in ruins. Yet others have virtually disappeared or have yet to be identified with certainly.

For example, G. Reitlinger noted the remains of a stone bridge over the Wadī al-Murr, a short distance west of Balad (now Eski-Mosul) in the Ǧabal Sinǧār. It had a span of over 12 metres and was built under the direction of an architect named Saʿid ʿAlī Ḫān Ibn ʿAbdallāh of Tall ʿAfar in 611 AH (1213/4 AD). That was during the reign of the Zangid ruler Muḥammad Ibn Zangī Quṭb al-Dīn of Sinǧār. Though built more than a generation after the Tigris bridge south of Ǧazīrat Ibn ʿUmar, Reitlinger (1938, p. 147) wrote that:

> "The stonework with its narrow oblong blocks and slightly pointed span may be compared to a more spectacular construction over the Tigris at Jazirat ibn 'Omar fifty miles to the north, published by Conrad Preusser. The piers of the bridge at Eski-Mosul may have been decorated with sculptures as this one is".

The number of bridges mentioned by various sources as being constructed during the 12th and early 13th centuries shows how important such projects were thought to be. Largely built to facilitate trade, they also made the movement of armies faster and more efficient and, of course, gave great prestige to those rulers and senior government figures who sponsored them. Some of these bridges replaced earlier ones which had collapsed. For example, Ibn al-Azraq, in his history of the Artuqid city of Mayyāfāriqīn (now Silvan in Turkey), recorded that the very early Islamic Qarāmān bridge which dated from 48 AH (668/9 AD) had collapsed in 539 AH (1144/5 AD) (Ibn al-Azraq, *A Muslim Principality*, p. 111). Efforts to rebuild it started the following year but, "after its piles had been firmly fixed on the eastern side, floods uprooted and destroyed it because of its defective craftsmanship" (Ibn al-Azraq, *A Muslim Principality*, p. 113-114). Clearly building bridges over rivers which became raging torrents at certain times of year was a considerable engineering challenge. The architects persisted, however, and a certain Amīr Sayf al-Dīn Šīrbārīk Mawdūd Ibn ʿAlī Ibn Artuq, a member of the ruling Artuqid Turkish clan, was put in charge. As Ibn al-Azraq (*A Muslim Principality*, p. 114-115) continued:

> "He began building it under the supervision of Abu'l-Khair al-Fāsūl, who brought unusually large pieces of wood and began work constructing it. It is one of the marvels built in this age and work continues on it".

Another version of this text stated that Abū al-Ḫair al-Fāsūl continued work on the new bridge until 548 AH (1153/4 AD). It is also worth noting that a toll was imposed for use of this crossing, in order to pay the costs of construction. Such a practice was quite common at that time.

The Carved Panels

The best known and best preserved (or perhaps more accurately, the best restored) medieval bridges near Silvan (the medieval Mayyāfāriqīn) are, however, the single-arched Malabadi Bridge across the Batman River which was built in 541 AH (1146/7 AD) and the earlier On Gözlü Köprü or "Ten Arches Bridge" which was first constructed in 457 AH

(1064/5 AD). While these magnificent medieval constructions in Turkey are preserved by the government and admired by tourists, the particularly tense location of the ʿAyn Dīwār bridge just inside the Syrian frontier has meant that very few outsiders have been able to visit it. The fact that I was able to do so on 25th June 2000 may have been more fortunately timed than I realized at the time, President Hafiz al-Assad of Syria (President Assad senior) having died only fifteen days previously.

Those scholars who either studied this remarkable bridge early in the 20th century, or have since looked closely at Preusser's photographs, agree that the style of the carved panels and their inscriptions do not contradict Ibn al-Aṯīr's dating. Herzfeld, for example, drew attention to what he described as the "archaic character" of the Nasḫi Arabic inscriptions.

Nevertheless, the subject matter of the panels, as well as various aspects of the carvings, their composition, figures and animals, could suggest the influence of non-Islamic art or culture. Of course, indigenous Christians still formed a majority within the Artuqid state, and perhaps also in parts of the Zangid state, during the 12th and early 13th centuries. At the same time, conversion to Islam may have been increasing, though this is far from certain. One way or another, an influence from Eastern Christian art upon the ʿAyn Dīwār bridge panels would not be surprising. It would be even clearer in several of the decorative and above all figural motifs on inlaid Mosul metalwork from a few decades later. Whether such a Christian artistic influence, or perhaps more accurately a shared Eastern Christian and Middle Eastern Islamic artistic heritage, can be seen in the fully armoured figure of Mars on panel 3 remains a matter of debate.[6]

Hartner (1938, p. 114-115) focussed upon the origins of the subject matter of these panels, writing that:

> "For many weeks, I studied the astrology of the Egyptians, Chaldaeans, Greeks, and Arabs, and finally arrived at the conclusion that these pictures have a purely astrological content, and by no means allow to carry out an astronomical determination of time, or even wish to indicate it [viz. the time of the construction of the bridge]. They originate in very old Babylonian conceptions".

G. Saliba (1994) pointed out that it was only around the 13th century that the science of astronomy and the pseudo-science of astrology became fully distinct and separate, having previously been regarded almost as aspects of the same subject. He also noted that there was a strong Prophetic tradition against astrology within the Islamic world; it coming to be seen as not only foreign but tending towards atheism.

On the other hand Whelan suggested that the astrological imagery "first seen" on the ʿAyn Dīwār bridge was subsequently used by the regional Artuqid and Zangid dynasties in other works of public art such as gates, walls and above all coins. She furthermore highlighted the importance of what she described "dominance iconography" – in other words the symbolism of power – amongst these motifs, including those on the ʿAyn Dīwār

6 D. NICOLLE, forthcoming, "The Iconography of a Military Elite: military figures on an early 13th century candlestick".

bridge panels (WHELAN 2006, p. 38-39). Robert Hillenbrand, in a paper he presented in May 2012, suggested that the 11th and 13th centuries were seen as a time of extraordinarily numerous astrological portents which have been reconstructed by modern scholars. Although few today would consider such astronomical phenomena as having an impact upon the fate of humanity, they occurred at a time when the Islamic Middle East was facing a number of real and immediate threats. These stemmed from both west in the form of the Crusades, and east in the form of the Mongols. It is, therefore, hardly surprising that this was a period of exceptional focus on zodiac imagery in the art of the Middle East (HILLENBRAND 1996, p. 36-38; and HILLENBRAND, forthcoming).

The Fully Armoured Horseman

The fact that the figure of Mars (panel 3) is riding side-saddle was not apparent in photographs taken by Conrad Preusser and Gertrude Bell, though he was sufficiently clearly a military and perhaps armoured figure to prompt my own visit in 2000. But why would the "God of War" ride side-saddle, in a manner reserved for women in western culture? Christ was sometimes shown riding a donkey side-saddle in representation of his Entry into Jerusalem in some Eastern Christian art,[7] but this surely had no bearing upon the warlike astrological and indeed fully armoured figure at ʿAyn Dīwār. The abundance of Buddhist deities and other such religious figures, many of them armed and military, shown riding side-saddle in pre-Islamic Turkish art from Central and Inner Asia might be more relevant. However, these were divine rather than astrological personages and they generally rode upon elephants or camels rather than horses.

A third and perhaps more significant group of illustrations showing men riding horses side-saddle comes from what could be interpreted as an Arab context. They include the horseman who leads Joseph into captivity in Egypt on a 6th century Coptic carved limestone panel – a figure often shown as a "desert nomad" and thus a Saracen or Arab even in pre-Islamic times (**figure 56**).[8] Dating from a little over a century later, but hundreds of kilometers away, is a wall-painting, sometimes said to date from the early 8th century, which shows horsemen riding side-saddle (**figure 57**). They are amongst numerous other supposed "tribute bearers" or embassies (ABDURAZAKOV & KAMBAROV 1975). Found during excavations of early medieval Afrasiab (Samarqand), these particular figures have been identified as envoys from Chaghaniyan, a town north of Termez and Balkh, in an area which had very recently come under Islamic Umayyad rule. Perhaps these side-saddle riders were Iranianized but still consciously Arab representatives. Certainly no other men on the wall-painting ride in this manner, perhaps alien and surprising to the Soghdian artist who portrayed them, though several women do so. Finally there is the unquestionably Arab

7 Most notably on the early 13th century, so-called Freer Canteen in Washington.

8 Coptic Museum, inv. 8001, Cairo.

horseman who sits side-saddle upon his grazing horse, observing the action in the *Kitāb al-Diryaq* manuscript made in northern Iraq in 595 AH (1198/9 AD) (**figure 58**).[9]

On the other hand, it is also possible that the artist who designed carved panel 3 on the ʿAyn Dīwār bridge merely wanted to fit the already established iconography of a celestial Mars (al-Mirriḫ) or Perseus holding the severed head of Medusa, into his picture. This astronomical or astrological Perseus does not, of course, ride a horse and if this was indeed the reason why the armoured figure on panel 3 had his legs in such a seemingly strange position, then the horse may, in artistic terms, have simply been added "behind" his legs.

Whatever the iconography of this strange figure's pose, the visible details of his costume make the carving highly important in the history of Islamic military equipment. Most significantly he wears a long-sleeved, long hemmed mail hauberk or *dirʿ* beneath a long-hemmed lamellar cuirass or *ğawšan*. He also almost certainly has a head-covering mail coif or *miġfar*. This long-sleeved, long hemmed mail hauberk, which is popularly associated with a western European knightly or Crusading elite rather than Islamic or even Byzantine cavalry had, in fact, been in constant use in the Middle East since late Roman times. So had the mail coif, though the latter was less common. The long-sleeved mail *dirʿ* was similarly worn by infantry warriors on little-known carvings on the Mosul Gate of the fortified hilltop town of al-ʿImādiyya (**figures 50-51**), some hundred kilometres east of the Tigris bridge. Erected during the time of Badr al-Dīn Lu'lu', who ruled Mosul from 631 AH (1233/4 AD) until 657 AH (1259 AD), it is iconographically closer to the carved gate at al-Ḫān in the Ğabal Sinğār though on the latter relief carvings the infantry warriors are unarmoured. J. Gierlichs (1995, p. 205-206), who has recently made a detailed study of these carvings, suggests that their dragon-fighting warriors show mythical "hero figures" rather than real professional troops from the mid-13th century.[10] Nevertheless, their style of full mail armour does appear in other pictorial sources, both Islamic and Eastern Christian, and there is no reason to doubt that such armours were worn by Muslim soldiers during the 12th and first half of the 13th centuries, as it had been in earlier years.

Written sources in Arabic, Persian and Byzantine Greek all agree that heavy armour of both mail and lamellar construction had long been worn by the best-equipped Muslim troops in this region. One of the most reliable and detailed sources was written by Abū ʿAlī Aḥmad Ibn Muḥammad Ibn Yaʿqūb Ibn Miskawayhi, a Persian government official and philosopher whose chronological account of the Buwayhid Sultanate was written in Arabic (Ibn Miskawayhi, *The Eclipse of the Baghdad Khalifate*). This fragmented Shiʿa state dominated western Iran and Iraq in the 10th and early 11th centuries before falling to the Seljuk Turks. Consequently Ibn Miskawayhi's descriptions of military equipment may be taken as reflecting the traditions of the pre-Seljuk, pre-Turkish Middle East. Their similarity with

9 Bibliothèque Nationale, Ms. Ar. 2964, f.19, Paris.

10 I was fortunate enough to visit ʿImādiyya in 1976, in the hope of photographing these carvings of mailed warriors, but found that the Mosul Gate had collapsed, apparently «recently» as a result of heavy snowfall. Since then it has been reassembled, though the carvings are now significantly damaged.

the heavily armoured horseman on panel 3 of the bridge at ʿAyn Dīwār is striking and surely significant.

Recording events of the year 305 AH (917/8 AD), Ibn Miskawayhi (*The Eclipse of the Baghdad Khalifate*, vol. 1, p. 54-55) noted that the elite guard regiments of the ʿAbbāsid Caliph, paraded in order to impress a visiting Byzantine ambassador, had "close-fitting caps which were satin hoods (*qalānis*) pointed at the top" while the cavalry were "in full dress and complete armour (*al-silāḥ al-tāmm*)". Thirty-nine years later, during a battle between rival forces within the notoriously fractious Buwayhid state, one commander was described as a particularly large and strong man. Ibn Miskawayhi (*The Eclipse of the Baghdad Khalifate*, vol. 2, p. 161) wrote that, "I have myself seen his cuirass (*ǧawšan*), which was very weighty; it was suggested to the strongest of the Daylamite champions (the Buyawhid ruling clan and the most reliable elements within their armies came from the northern Iranian region of Daylam) to put it on, but they all refused; it was too heavy for their hands".

Writing of the year 364 AH (974/5 AD), Ibn Miskawayhi (*The Eclipse of the Baghdad Khalifate*, vol. 2, p. 336) recorded in a battle between a Buwayhid force of Turkish troops (*mamlūk* professional soldiers, not the Seljuk tribesmen who would appear in Iran over half a century later) and a force led by Ḥamdān Ibn Nāṣir al-Dawla. The latter was attacking the Turks when one of his men was obliged to dismount when his horse was injured: "He rose to mount another but being clad in iron (*ḥadīd*) could not do it, and was recognized by the Turks who belaboured him with their clubs (*dabābīs*) [actually maces]". A final quotation from Ibn Miskawayhi highlights the difference in military equipment and indeed military traditions between the two peoples who dominated the northern parts of the Ǧazīra region before the arrival of the Seljuk Turks in the 11th century. They were the Arabs and the Kurds. The battle or skirmish which Ibn Miskawayh described took place in 377 AH (987/8 AD). The Arab warriors were from the Banū ʿUqayl, a tribe which was in the process of establishing a state in parts of the Ǧazīra, Iraq and northern Syria and which would endure from around 380 AH (990/1 AD) to 564 AH (1168/9 AD), though latterly in a much reduced state. "They (the ʿUqaylids) were more lightly mounted and swifter in their movements than the Kurds whose horses were slow and whose equipment was heavy" (Ibn Miskawayhi, *The Eclipse of the Baghdad Khalifate*, vol. 3, p. 144). Perhaps, we can envisage those Kurdish heavy cavalry as looking something like the figure of Mars or Perseus on panel 3 of the ʿAyn Dīwār bridge.

"Perforated iron" (*maḥzūz*) used in sieges, and thus perhaps referring to metallic lamellar armour, was manufactured at Missīsa, a few kilometres east of Tarsus in the later 10th century (CANARD 1957, p. 46), while mail armour for both men and horses was manufactured in Tarsus itself before its conquest by the Byzantines in 354 AH (965 AD) (CANARD 1957, p. 49). In fact the use of mail horse armour by the *ġulāms* or professional troops of the Ḥamdānid ruler of northern Syria, Sayf al-Dawla 333-356 AH (944/5-966/7 AD), was confirmed in Byzantine Greek sources (VASILIEV 1950, p. 321).

The First Crusaders were sufficiently impressed by the lamellar armour of their Seljuk Turkish opponents outside Antioch that the anonymous author of the *Gesta Francorum* described it in some detail (*Gesta Francorum*, p. 48):

> *"Et Agulani fuerunt numero tria milia, qui neque lanceas neque sagittas neque ulla arma timebant, quia omnes erant undique cooperti ferro et equi eorum".*

Rosalind Hill mistakenly suggests that these *Agulani* were Aghovanians from the Caucasus whereas the word was more likely to have been a corruption of the Arabic term *ġilmān* (sing. *ġ̲ulām*) meaning élite professional soldiers of supposedly slave recruited origin, also referred to as *mamlūks*. Her translation otherwise appears correct (*Gesta Francorum*, p. 49):

> "The Agulani numbered three thousand, they feared neither spears nor arrows nor any other weapon, for they and their horses are covered all over with plates of iron".

This army had, of course, come from the Ǧazīra region and western Iran, presumably including troops from the area of Ǧazīrat Ibn ʿUmar. Usāma Ibn Munqiḏ (*Kitāb al-iʿtibar, passim*) confirmed the use of both *dirʿ* mail hauberks and *ǧawšan* lamellar cuirasses by Muslim cavalry in early 12th century Syria, though not specifically being worn at the same time.

The *Nihāyat al-Su'l* military training manual composed by Muḥammad Ibn ʿĪsā al-Aqṣarā'ī is perhaps the best known work of *furūsiyya* from the Mamlūk era. The existing text dates from the early 14th century but was largely based upon earlier *furūsiyya* texts, the most important of which stemmed from the 'Abbāsid 9th and 10th centuries. It refers to a variety of different pieces of military equipment and clothing, including different mail and lamellar armours. The *Nihāyat al-Su'l* also mentions occasions when both armours were needed, though this was clearly not always the case. Furthermore the author – or perhaps more correctly the compiler – noted that a lamellar cuirass could be joined to a mail hauberk by straps. These straps could then be undone if the cuirass constricted the hauberk (Aqṣarā'ī, *Nihāyat al-Su'l*, p. 80). The *Nihāyat al-Su'l* tended to be critical of the short form of lamellar cuirass, as illustrated in so much Islamic art from the 12th and early 13th centuries (figure 49-50), preferring the long form as shown on panel 3 of the Tigris bridge and in a smaller number of Islamic pictorial sources from the late 12th and early 13th centuries (**figures 53-54**). Lamellar cuirasses had been illustrated in earlier Islamic pictorial sources, though these by and large came from Iran (**figures 42-44**), and in the art of Armenia under Islamic suzerainty (**figure 45**) and of the Byzantine frontier regions (**figures 46-48**). One of the most unusual comes from Egypt, probably dating from the Fāṭimid 10th to 12th centuries. It shows a probably hardened leather or rawhide cuirass, worn beneath of a sleeveless outer garment or surcoat, and seemingly included lamellar arm defences (**figure 55**). Nevertheless the author pf the *Nihāyat al-Su'l* did acknowledge that the short cuirass was suitable for a horse-archer (Aqṣarā'ī, *Nihāyat al-Su'l*, p. 82-84). Subsequently the wearing of longer *ǧawšan* lamellar cuirasses or their replacement, the scale-lined *qarqal*, over mail hauberks became standard for the best equipped cavalry across virtually all the Islamic world until the end of the medieval period.

Despite the defacement of the head of the horseman on panel 3 of the bridge, close inspection shows that he probably wears a mail coif (**figures 16-17**). Whether this formed

an integral part of the mail hauberk, as was still standard in Europe, or was a separate piece of defensive equipment, is unclear. Here it is interesting to note that the *Nihāyat al-Su'l* referred to three distinct forms of protective headgear: the helmet, the mail coif and the turban. Sometimes it would appear that all three could be worn at once (Aqṣarā'ī, *Nihāyat al-Su'l*, p. 82). This might be the case on panel 3.

A Leather or Metallic Lamellar Cuirass?

Returning to the lamellar armour, the shape of the individual lamellae of the cuirass shown on panel 3 of the Tigris bridge suggests that they were of hardened leather or rawhide rather than metallic construction (**figures 15-19**). Archaeological evidence from various parts of the Middle East, Asia and Europe confirms that whereas the former tended to be almost square in form, the latter were almost invariably much more elongated (**figure 41**). Here we are extremely fortunate in possessing substantial fragments of a number of hardened leather or rawhide lamellar cuirasses, found relatively recently within Syria, and dating from between the 12th to early 14th centuries (**figures 31-37**). Unfortunately none of these exceptionally important finds have yet been fully studied or published (NICOLLE 2008a, p. 152-163; 2008b, p. 26-33; 2012, p. 54-56).

In contrast, substantial sheets of largely intact leather or rawhide lamellar armour found in the Roman frontier fortress of Dura Europos in eastern Syria, and dating from the 3rd century AD, have been fully studied and published (JAMES 2004, p. 122-125). The only problem is that there is still dispute about their precise function, either as protection for a horseman's thighs or a horse's neck, or their origin as Roman, Romano-Syria, Parthian or Sassanian equipment. On the other hand the structural similarity between the Dura Europos finds and the medieval leather or rawhide cuirasses mentioned above surely indicates a remarkable continuity of military-technological tradition within the Middle East. Furthermore, Arabic *furūsiyya* literature from almost exactly the same period as the construction and decoration of the Tigris bridge near ʿAyn Dīwār, includes exceptionally detailed, though not always easily understood, instructions for the making of various forms of leather or rawhide armour, including a cuirass. These are found in Marḍī Ibn 'Alī Ibn Marḍī al-Ṭarsūsī's *Tabṣirat Abāb al-Albāb* which was written for Saladin when he became chief *wazīr* of the last Fāṭimid Caliph of Egypt (NICOLLE 2011, p. 108-109; 2002, p. 203-204; CAHEN 1947-48, p. 116 & 138-139; Marḍī al-Ṭarsūsī, *Tabṣira*).

The idea that a hardened leather or rawhide lamellar cuirass must necessarily be regarded as "light equipment" when compared with a metal lamellar cuirass is misleading, especially if the cuirass in question is being worn over a mail hauberk. An accurate reconstruction of even a short form of rawhide lamellar cuirass, made for the The Royal Institute of Arabian Horsemanship (RIAH) in Jordan proved to be remarkably heavy. Such protections were, nevertheless, highly effective. Russell Mitchell, the experimental archaeologist and specialist in leather armour, has noted that rawhide is much more effective than leather or otherwise treated leather, especially against arrows and direct thrusts by pointed weapons. As expected, it was also far superior to mail armour when

the latter was alone.[11] If, as I believe, the carved limestone relief of a heavily armoured horseman on panel 3 of the ruined Tigris bridge near the village of ʿAyn Dīwār does accurately reflect the military equipment of élite cavalry in the 12th century Ǧazīra and neighbouring regions of the Islamic Middle East, then the horseman would seem to be expecting to face a considerable threat from archery. This, of course, was precisely the case, as confirmed in historical chronicles, poetic literature and virtually all other documentary sources.

The Inscriptions

Willy Hartner had to work from Preusser's photographs when attempting to decipher brief inscriptions on the carved Zodiac panels on the western buttress of the surviving arch of the Tigris bridge near ʿAyn Dīwār. Consequently he admitted difficulty where some of these inscriptions were concerned, as had Herzfeld before him (HARTNER 1938, p. 114-115). Dr Niall Christie has therefore looked at my own more recent photographs of these inscriptions which have, nevertheless, suffered further erosion and damage since Conrad Preusser's visit. In November 2012, Dr Christie sent me the following thoughts by email.

Panel 1: (Top left, first line, **figure 11**) *šaraf* [rising], (second line) *raǧul* [man], or maybe *riǧl* [the star Rigel whose name is considered to be one of the oldest extant Arabic star names in Western astronomy] – maybe a pun? (Top right, **figure 12**) I cannot make this one out. It is definitely not *al-mīzān*, the Arabic for Libra.

Panel 2: (Right side, **figure 14**) Something illegible followed by *šaraf*. (Left side, **figure 14**) Too decayed to tell.

Panel 3: (**figure 19**) *al-ǧisr*... [the bridge (followed by something that looks Persian that I cannot read)].

Panel 4: (Top line, **figure 22**) *al-šams* [the sun]. (Bottom line, figure 22) *mirrīḫ?* [Mars].

Panel 5: (**figure 24**) *al-ḥūt* [Pisces].

Panel 6: (**figure 26**) Something illegible, followed by *sharaf*.

Panel 7: (Right side, **figure 28**) *al-qamar* [the Moon]. (Left side) *šaraf*... [rising of... (something no longer present)]. Inscription below unclear.

Panel 8: (**figure 30**) I am not sure what this says. It looks like Persian, but I have not managed to track it down.

Conclusions

Contrary to information still found in some non-academic publications, the bridge which either spanned or was intended to span the river Tigris a few kilometers downstream from what is now the Turkish frontier town of Cizre is not a Roman construction. Nor is there real evidence that any pre-Islamic bridge was ever built at this location. Arabic

11 R. MITCHELL, private correspondence, 2003, 13 August.

historical sources make clear that the existing, largely ruined or perhaps never completed bridge dates from between 541 AH (1146/7 AD) and 559 AH (1163/4 AD) 1163 AD. It was constructed on the orders of, or sponsored by Ǧamāl al-Dīn Muḥammad al-Iṣfahānī Ibn ʿAlī Ibn Abī Manṣūr, the *wazīr* or chief minister of Quṭb al-Dīn Mawdūd Ibn Zangī, the Zangid ruler of Mosul. Widely regarded as one of the most successful *wazīrs* of this period, Ǧamāl al-Dīn Muḥammad al-Iṣfahānī nevertheless died in 559 AH (1163/4 AD) before his great bridge was completed.

At the start of the 20th century, the bridge was included in a major study of medieval survivals in this part of the Middle East, by Conrad Preusser (1911). Unfortunately his ability to photograph the eight carved limestone panels which decorate the downstream side of the western pier of the surviving arch was hampered by the fact that the river Tigris was currently in flood. Thereafter, the location of the ruined bridge in the north-easternmost corner of Syria, with a few hundred metres from the Turkish frontier and within a few kilometres of the Iraqi frontier, seems to have inhibited detailed study following the establishment of these frontiers in the aftermath of the First World War.

In June 2000, as part of research for a Doctoral thesis, I myself visited the ruins with a view to photographing what appeared, from unsatisfactory photographs taken by Preusser and, a few years later, by Gertrude Bell, to be a fully armoured horseman on one of the carved panels. The mounted figure in question proved to be an exceptionally important piece of pictorial evidence concerning the armour worn in the Islamic Middle East during the 12th century. This horseman not only wore a full-length lamellar cuirass, but did so over a full-length, long-sleeved mail hauberk, plus what was almost certainly a mail coif.

Because the waters of the river Tigris were at a very low level at the time of my visit, the resulting photographs were both clearer and taken from more convenient angle that those of Preusser and Bell. They also showed the remaining inscriptions on these carved panels in greater detail, which enabled my colleague Dr. Niall Christie to provide more reliable readings and translations. These he has kindly allowed me to include in this article.

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Captions

1 The remains of the Tigris bridge near ʿAyn Dīwār viewed from downriver and with the Tigris to the right (author's photograph).

2 The easternmost remaining buttress of the Tigris bridge near ʿAyn Dīwār seen from the top of the surviving arch, with the Tigris in the background (author's photograph).

3 The surviving arch of the Tigris bridge near ʿAyn Dīwār seen from the east and downriver, showing four of the carved limestone panels (author's photograph).

4 The surviving arch of the Tigris bridge near ʿAyn Dīwār seen from the west, towards the river Tigris, and showing five of the carved limestone panels (author's photograph).

5 The surviving arch of the Tigris bridge near ʿAyn Dīwār seen from below, showing the carved limestone panels on the downstream end of the buttress and the geometric basalt and limestone decoration on the upstream end of the buttress (author's photograph).

6 The remains of the Tigris bridge near ʿAyn Dīwār viewed from downriver a few years before the outbreak of the First World War, at a time when the Tigris was in flood (The Gertrude Bell Archive, Newcastle University).

7-8 The remains of the "small bridge" over the Tigris at Ǧazīrat Ibn ʿUmar [Cizre], at is appeared in the early years of the 20th century (Conrad Preusser photographs).

9 Carved Zodiac panels [3 to 5] on the Tigris bridge near ʿAyn Dīwār as they appeared shortly before the outbreak of the First World War, including the now missing upper part of panel 4 [see pictures 25 & 26] (The Gertrude Bell Archive, Newcastle University).

10 Panel 1 of the carved Zodiac panels (author's photograph).

11-12 Details of the inscriptions in the upper right and left corners of panel 1 (author's photographs).

13 Panel 2 of the carved Zodiac panels (author's photograph).

14 Detail of the inscription on the upper part of panel 2 (author's photograph).

15 Panel 3 of the carved Zodiac panels (author's photograph).

16 The armoured horseman holding a sword in his right hand and the severed head of Medusa in his left, riding side-saddle on panel 3 of the carved Zodiac panels; grey tone indicates ares of significant damage (author's drawing).

17-19 Details of the armour and horse-harness of the river on panel 3 (author's photographs).

20 Detail of the inscription in the upper left corner of panel 3 (author's photograph).

21 Panel 4 of the carved Zodiac panels showing how the upper part has either collapsed or been removed since Preusser's visit (author's photograph).

22 Detail of the inscription in the upper right corner of panel 4 (author's photograph).

23 Panel 5 of the carved Zodiac panels (author's photograph).

24 Detail of the inscription in the upper left corner of panel 5 (author's photograph).

25 Panel 6 of the carved Zodiac panels (author's photograph).

26 Detail of the inscription in the upper left quarter of panel 6 (author's photograph).

27 Panel 7 of the carved Zodiac panels (author's photograph).

28 Detail of the inscription in the upper left and right corners of panel 7 (author's photograph).

29 Panel 8 of the carved Zodiac panels (author's photograph).

30 Detail of the inscription in the upper part of panel 8 (author's photograph).

31-32 Elements of a hardened leather or rawhide lamellar cuirass, probably dating from the late 12th to early 14th centuries, found in a sealed stairwell of Tower 4 of the Citadel of Damascus (National Museum Conservation Department, inv. 2001-113, Damascus; author's photographs).

33-34 Elements of a second hardened leather or rawhide lamellar cuirass, probably dating from the late 12th to early 14th centuries, found in a sealed stairwell of Tower 4 of the Citadel of Damascus (National Museum Conservation Department, inv. 2001-prov. C, Damascus; author's photographs).

35-37 Fragments of hardened leather or rawhide lamellar armour from an unrecorded "collapsed building" overlooking the Euphrates valley in eastern Syria [almost certainly the collapsed southern tower of Qal'at Raḥba], 12th to early 13th century (now understood to be in the Qatar Ministry of Antiquities, Doha; author's photograph).

38-40 The best preserved of a matching [mirror image] pair of sheets of hardened leather or rawhide lamellar armour found in Tower 19 in the collapsed fortifications of the Syro-Roman frontier fortress of Dura Europos, overlooking the river Euphrates, 3rd century AD (Yale University Art Gallery, no. 1938.5999.1009, New Haven; author's photographs).

41 Elements of a metallic lamellar cuirass, probably dating from the late 12th to early 14th centuries, found in a sealed stairwell of Tower 4 of the Citadel of Damascus (National Museum Conservation Department, inv. 2001-120-prov.B, Damascus; author's photographs).

42 Ceramic bowl from Nishapur, 9th-10th century (Reza Abbasi Museum, Tehran; author's photograph).

43 Ceramic bowl from Nishapur, 9th-10th century (Royal Ontario Museum, Toronto; author's photograph).

44 Ceramic bowl from Nishapur, 9th-10th century (Museum of the Istituto di Studi Medio Oriente, Inv. 2629/3258, Rome; author's photograph).

45 Relief carving of Goliath, Armenian 10th century (*in situ* exterior of the Church of King Gagik, Aght'amar, Turkey; author's photograph).

46 Wall-painting of the Emperor John Tzimiskes, Byzantine Cappadocia, 963-9 AD (*in situ*, Ayvali Kilise [Dovecote Church], Çavusin; author's photograph).

47 Wall-painting of Melias the Martyr, Byzantine Cappadocia, 963-9 AD (*in situ*, Ayvali Kilise [Dovecote Church], Çavusin; author's photograph).

48 Wall-painting of "The Forty Martyrs", Byzantine Cappadocia, 963-9 AD (*in situ*, Ayvali Kilise [Dovecote Church], Çavusin; author's photograph).

49 Obverse of a coin of Ḥusām al-Dīn, the Artuqid ruler of Mārdīn [580 599 AH (1184-1203 AD)] (American Numismatic Society, New York; ANS photograph).

50 Stucco panel from Iran, 12th-early 13th century (Art Museum, Seattle; Art Museum photograph).

51 Relief carving on the Mosul Gate, left-hand figure as it appeared before collapsing in the early 1970s (*in situ* Bāb Mūṣil, al-'Amādiyah; Iraqi Ministry of Antiquities photo).

52 Relief carving on the Mosul Gate, right-hand figure as it appeared before collapsing in the early 1970s (*in situ* Bāb Mūṣil, al-'Amādiyah; Iraqi Ministry of Antiquities photo).

53 Soldier wearing a hardened leather or rawhide lamellar cuirass, on a ceramic lustre bowl from Iran, early 13th century (Museum of Islamic Art, inv. 13279, Cairo; author's photograph).

54 Soldier wearing a metallic lamellar cuirass, on a fragmentary ceramic lustre bowl from Iran, late 12th or early 13th century (Cinquantenaire Museum, inv. IS.8725, Brussels; author's photograph).

55 Fragment of painted paper from Fustat, Egypt, probably 10th to 12th centuries (Keir Collection, inv. 1.8, London)

56 "Joseph taken to Egypt" on a 6th century carved stone relief, Coptic Egypt (Coptic Museum, inv. 8001, Cairo; author's photograph).

57 Wall painting from the "Hall of Ambassors" in Afrasiab, early 8th century (after K.A Abdurazakov & M.K. Kambarov).

58 *Kitāb al-Diryaq*, northern Iraq 1199 AD (Bibliothèque Nationale, Ms. Ar. 2964, f.19, Paris; Bibliothèque Nationale photograph).

Figure 1 : The remains of the Tigris bridge near ʿAyn Dīwār viewed from downriver and with the Tigris to the right.

Figure 2: The easternmost remaining buttress of the Tigris bridge near ʿAyn Dīwār seen from the top of the surviving arch, with the Tigris in the background.

Unless otherwise mentioned, all the photographs are the author's.

Figure 3 : The surviving arch of the Tigris bridge near ʿAyn Dīwār seen from the east and downriver, showing four of the carved limestone panels.

Figure 4 : The surviving arch of the Tigris bridge near ʿAyn Dīwār seen from the west, towards the river Tigris, and showing five of the carved limestone panels.

Figure 5 : The surviving arch of the Tigris bridge near ʿAyn Dīwār seen from below, showing the carved limestone panels on the downstream end of the buttress and the geometric basalt and limestone decoration on the upstream end of the buttress.

Figure 6 : The remains of the Tigris bridge near ʿAyn Dīwār viewed from downriver a few years before the outbreak of the First World War, at a time when the Tigris was in flood (The Gertrude Bell Archive, Newcastle University).

Figures 7-8 : The remains of the "small bridge" over the Tigris at Ğazīrat Ibn ʿUmar [Cizre], at is appeared in the early years of the 20th century (Conrad Preusser photographs).

Figure 9 : Carved Zodiac panels [3 to 5] on the Tigris bridge near ʿAyn Dīwār as they appeared shortly before the outbreak of the First World War, including the now missing upper part of panel 4 [see pictures 25 & 26] (The Gertrude Bell Archive, Newcastle University).

Figure 10 : Panel 1 of the carved Zodiac panels.

Figures 11-12 : Details of the inscriptions in the upper right and left corners of panel 1.

Figure 13 : Panel 2 of the carved Zodiac panels.

Figure 14 : Detail of the inscription on the upper part of panel 2.

Figure 15 : Panel 3 of the carved Zodiac panels.

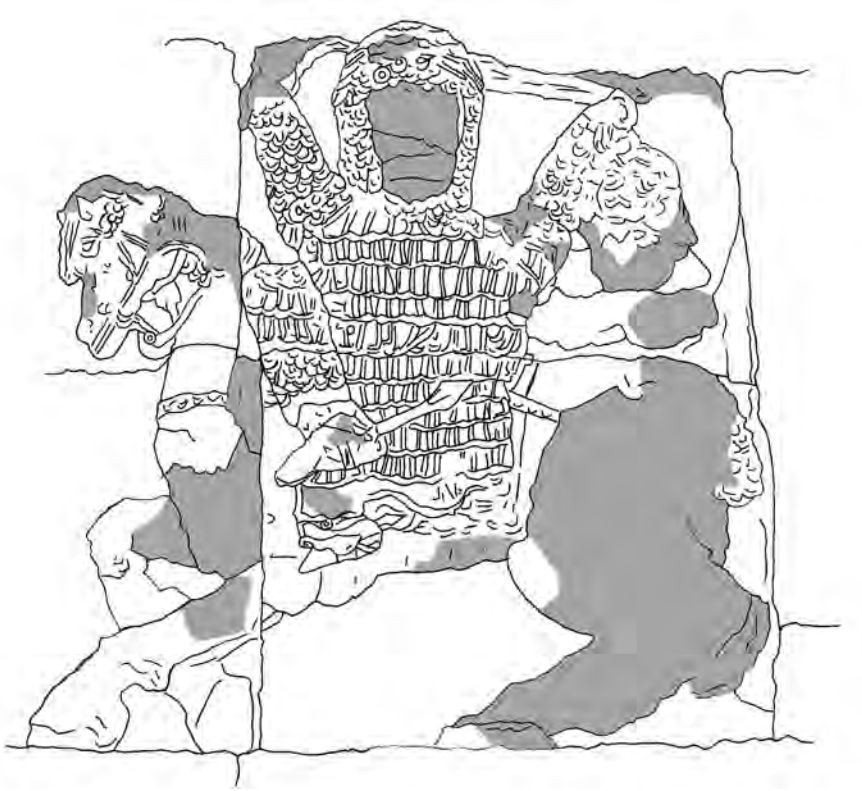

Figure 16 : The armoured horseman holding a sword in his right hand and the severed head of Medusa in his left, riding side-saddle on panel 3 of the carved Zodiac panels; grey tone indicates ares of significant damage.

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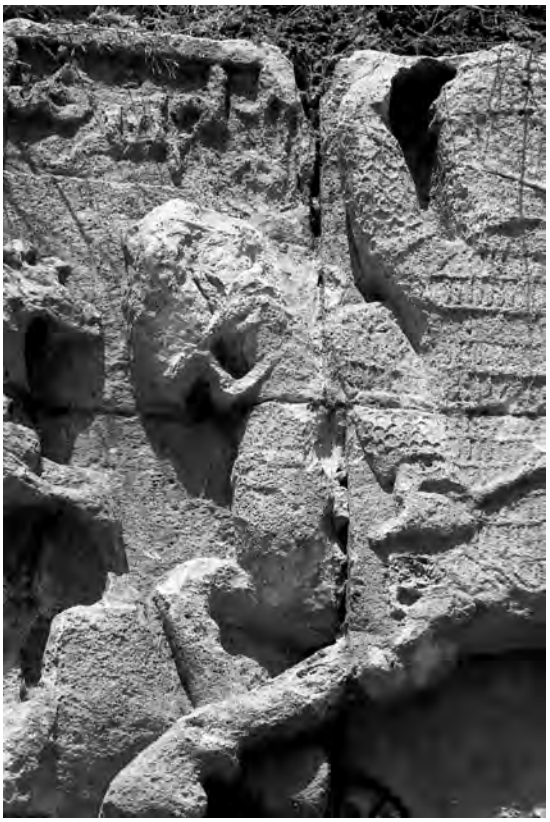

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Figures 17-19 : Details of the armour and horse-harness of the river on panel 3.

Figure 20 : Detail of the inscription in the upper left corner of panel 3.

(21)

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Figure 21 : Panel 4 of the carved Zodiac panels showing how the upper part has either collapsed or been removed since Preusser's visit.

Figure 22 : Detail of the inscription in the upper right corner of panel 4.

(23)

(24)

Figure 23 : Panel 5 of the carved Zodiac panels.

Figure 24 : Detail of the inscription in the upper left corner of panel 5.

(25)

(26)

Figure 25 : Panel 6 of the carved Zodiac panels.
Figure 26 : Detail of the inscription in the upper left quarter of panel 6.

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(28)

Figure 27 : Panel 7 of the carved Zodiac panels.
Figure 28 : Detail of the inscription in the upper left and right corners of panel 7.

Figure 29 : Panel 8 of the carved Zodiac panels.

Figure 30 : Detail of the inscription in the upper part of panel 8.

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(32)

Figures 31-32 : Elements of a hardened leather or rawhide lamellar cuirass, probably dating from the late 12th to early 14th centuries, found in a sealed stairwell of Tower 4 of the Citadel of Damascus (National Museum Conservation Department, inv. 2001-113, Damascus).

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Figures 33-34 : Elements of a second hardened leather or rawhide lamellar cuirass, probably dating from the late 12th to early 14th centuries, found in a sealed stairwell of Tower 4 of the Citadel of Damascus (National Museum Conservation Department, inv. 2001-prov. C, Damascus).

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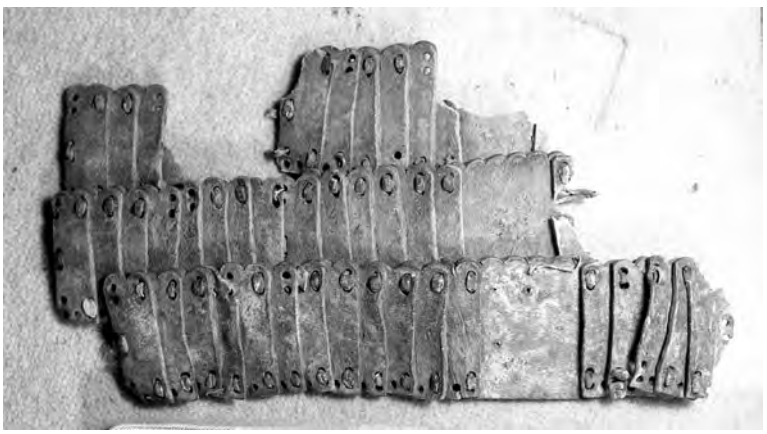
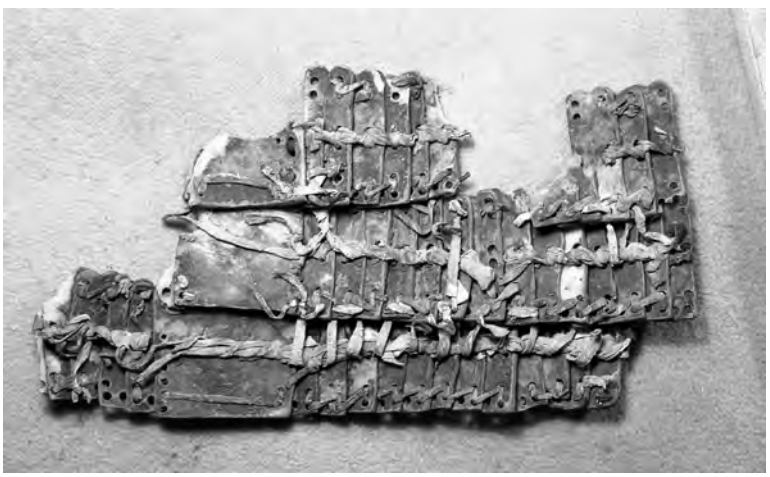


Figures 35-37 : Fragments of hardened leather or rawhide lamellar armour from an unrecorded “collapsed building” overlooking the Euphrates valley in eastern Syria [almost certainly the collapsed southern tower of Qalʿat Raḥba], 12th to early 13th century (now understood to be in the Qatar Ministry of Antiquities, Doha).



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Figures 38-40 : The best preserved of a matching [mirror image] pair of sheets of hardened leather or rawhide lamellar armour found in Tower 19 in the collapsed fortifications of the Syro-Roman frontier fortress of Dura Europos, overlooking the river Euphrates, 3rd century AD (Yale University Art Gallery, no. 1938.5999.1009, New Haven).

Figure 41 : Elements of a metallic lamellar cuirass, probably dating from the late 12th to early 14th centuries, found in a sealed stairwell of Tower 4 of the Citadel of Damascus (National Museum Conservation Department, inv. 2001-120-prov.B, Damascus).

Figure 42 : Ceramic bowl from Nishapur, 9th-10th century (Reza Abbasi Museum, Tehran).

Figure 43 : Ceramic bowl from Nishapur, 9th-10th century (Royal Ontario Museum, Toronto).

Figure 44 : Ceramic bowl from Nishapur, 9th-10th century (Museum of the Istituto di Studi Medio Oriente, Inv. 2629/3258, Rome).

Figure 45 : Relief carving of Goliath, Armenian 10th century (*in situ* exterior of the Church of King Gagik, Aght'amar, Turkey).

Figure 46 : Wall-painting of the Emperor John Tzimiskes, Byzantine Cappadocia, 963-9 AD (*in situ*, Ayvali Kilise [Dovecote Church], Çavusin).

Figure 47 : Wall-painting of Melias the Martyr, Byzantine Cappadocia, 963-9 AD (*in situ*, Ayvali Kilise [Dovecote Church], Çavusin).

Figure 48 : Wall-painting of "The Forty Martyrs", Byzantine Cappadocia, 963-9 AD (*in situ*, Ayvali Kilise [Dovecote Church], Çavusin).

Figure 49 : Obverse of a coin of Ḥusām al-Dīn, the Artuqid ruler of Mārdīn [580-599 AH (1184-1203 AD)] (American Numismatic Society, New York; ANS photograph).

Figure 50 : Stucco panel from Iran, 12th-early 13th century (Art Museum, Seattle; Art Museum photograph).

Figure 51 : Relief carving on the Mosul Gate, left-hand figure as it appeared before collapsing in the early 1970s (*in situ* Bāb Mūṣil, al-'Amādiyah; Iraqi Ministry of Antiquities photo).

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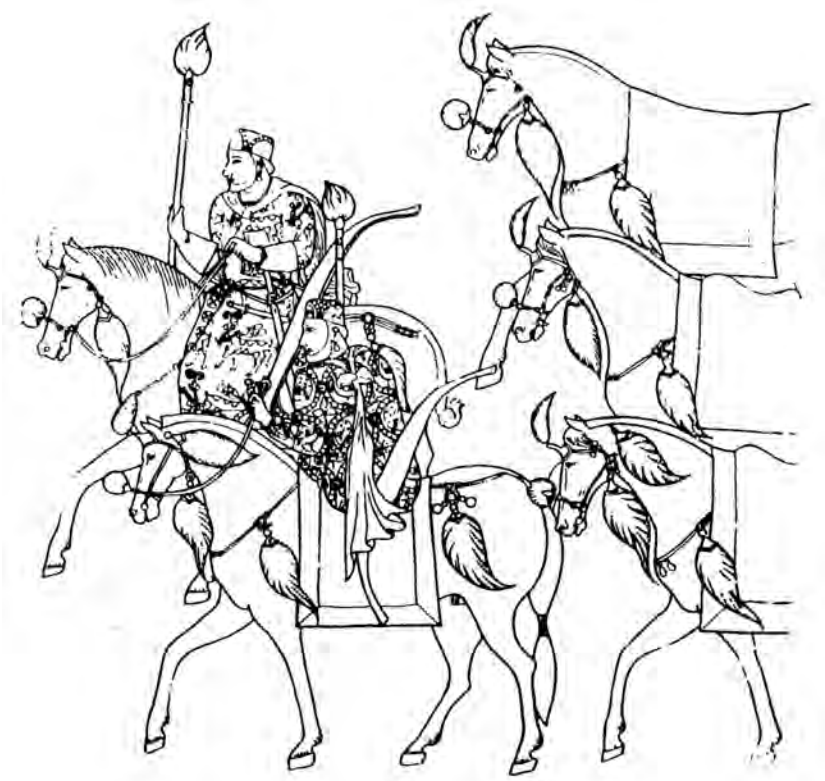

Figure 57 : Wall painting from the "Hall of Ambassors" in Afrasiab, early 8th century (after K.A Abdurazakov & M.K. Kambarov).

Figure 58 : *Kitāb al-Diryaq*, northern Iraq 1199 AD (Bibliothèque Nationale, Ms. Ar. 2964, f.19, Paris; Bibliothèque Nationale photograph).