

## SIEGE-SHIELD AND SCALE ARMOUR RECIPROCAL PREDOMINANCE AND COMMON EVOLUTION

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*Abstract:* As it appears on the earliest depictions of military materials, Early Dynastic people used a huge shield during the sieges of cities, in order to protect their archers shooting at the defenders. In the meantime, the neck, chest and sides of these besieging soldiers were protected with the primitive models of the scale-armour. The shield has seen a fascinating evolution in the ancient Near East as a defensive armour, dominating the light, thin armour for centuries. Then, the spoked-wheel chariot appeared, and enhanced the evolution and predominance of the scale-armour over the heavy and large shield, for centuries. With the Middle - Late Bronze Age, the scale-armour was so huge a defense that it was provided to the sappers, working without shield at the foot of the rampart during the sieges of cities. Then, during the Early Iron Age, the sappers appear more and more with smaller scale-armour, and huger siege-shields, as one can clearly observe it on the Neo-Assyrian data. The development of these technologies, and their smart use, and effectiveness, surely contributed to the constitution of empires in the ancient Near East. Archaeological, visual and textual evidences will come in hand to support this original approach of hopology.

*Keywords:* Siege, Shield, Scale, Armour, Assyrian, Chariotry, Infantry, Cavalry, Spearman, Archer, Breastplate, Early Dynastic, Bronze Age, Iron Age, Neo-Assyrian, Urartean, Persian, Pre-Sargonids.

### INTRODUCTION

In this paper, one will investigate the evolution of shields and armours, from the III<sup>rd</sup> Millennium to the I<sup>st</sup> Millennium B.C. in the ancient Near East.

These two essential parts of the warrior panoply can help one observe the particular changes in the ancient near eastern military doctrines, as they usually relate to the evolution of the vectors: foot, chariot, horse.

Some material that appears as shield will prove to be armour, and this will allow the reader to have a better understanding of some scenes depicted on the III<sup>rd</sup> Millennium B.C. visual monuments.

Finally, one will provide the interlocking and balanced assets and weak points of both shield and armour, as they were understood in the I<sup>st</sup> Millennium B.C., providing a base for further research for the infantry tactics during the Persian era.

## 1. III<sup>RD</sup> MILLENNIUM B.C.

### 1.a. *Armours*

Armours in the III<sup>rd</sup> Millennium were widely diversified, employing leather, wool and metal, but more deeper studies should be made on that topic.

Anyways, one will mainly use the visual evidence to assert the practical advantages and problems of the siege-shield and scale armour.

The famous “Texte des armures” recollects the employment of leather, felt, wool and metal in the confection of helmets at this period, but it does not say a word about the making of the cape, the *tuttitu* or the shield.<sup>1</sup> One can only think these armours were mainly made of leather, with the circular studs in metal or leather as well.

#### 1.a.1. *Cape*

The soldiers who occupy the closest position to both the chariot warriors, of higher status, and the enemy wear a kind of cape reinforced with circular studs on the Standard of Ur (Figure 1).<sup>2</sup> This fact also supports the idea they are élite soldiers, whose back must be protected, something explained by the very appearance of the cape.

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<sup>1</sup> Scheil 1912: 296-301.

<sup>2</sup> Pritchard 1954: 97, fig. 303.

These soldiers wield a pike, and not a spear, which can be testified by the employment of both hands, instead of the shorter spear, which requires only one. The nature of the support of these depictions can explain why the length of the pike was shortened on the battle scene.

### 1.a.2. *Tuttitu*

A shell inlay discovered in Mari presents the depiction of a siege archer and his siege-shield bearer (Figure 2).<sup>3</sup> Both appear to wear a *tuttitu*, a kind of long scarf reinforced with circular studs and worn around the neck to cover the breast and both hips.<sup>4</sup> Their position to the closest point of the ramparts of the city they besieged is supported by the depiction of a falling enemy on the top of the shield.

The same kind of armour also appears on the later Akkadian fragments of a stele from Tello, showing soldiers protected by a *tuttitu* and engaged in hand-to-hand combat (Figure 3).<sup>5</sup>

### 1.b. *Shields*

The siege-shield might have been realised with reeds and pieces of leather, as observed in later but similar shields (Figure 2).

The square shield would better be made with a wooden base and metal studs depicted as the circles (Figure 4).

#### 1.b.1. *Huge shield*

The front lines of Eannatum of Lagash's infantrymen are depicted with a huge rectangular shield, reinforced with circular studs, and wielding their pikes with both hands (Figure 4).<sup>6</sup> Their closest position to the enemy, and ahead of the king, asserts the fact that they must have been élite soldiers.

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<sup>3</sup> Parrot 1967: 213, n° 2500.

<sup>4</sup> Kendall 1981: 202 n. 9.

<sup>5</sup> Amiet 1976: 25, 90, fig. 25a.

<sup>6</sup> Pritchard 1954: 95, fig. 300.

Here, it appears the main objective is to protect the soldiers' breasts against missiles, as the position, size and shape of the shield proves it.

### 1.b.2. *Siege-shield*

As it has been already mentioned, this huge shield was employed to protect the archers during their approach of the city walls (Figure 2).

Here also, the main objective is to protect the front of soldiers against the missiles sent by the enemy.

### 1.c. *First Remarks*

Some facts one has already noticed concern the two different objectives of the armour materials during this period.

The shield must protect the breast of the soldiers when they are approaching a enemy equipped with missile weapons.

On the other way, the armour seems to be designed as a secondary shield, to protect the soldiers from the missiles or weapons hits coming from the flank or from the rear.

These two points allow the soldier to have some room for movement, and thus to resist the eventual shock effect when they reach the enemy in close contact.

Furthermore, the better equipment of these troops would lead one to believe these had a higher status than the lightly ones, just having a helmet and a *kaunakes* (Figure 5).<sup>7</sup>

## 2. II<sup>ND</sup> MILLENNIUM B.C.

The II<sup>nd</sup> Millennium B.C. presents a very interesting particularity, which lies in the nearly total absence of depictions of armours or of shields in the Ancient Near Eastern sources.

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<sup>7</sup> Pritchard 1954: 95, fig. 300.

## 2.a. *Armours*

Pieces of specific kinds of armours were discovered in the ancient Near East, mainly represented by the scale armours found at Nuzi, Hattusah and Ugarit (Figure 6-8).<sup>8</sup>

Textual evidence also deeply help the modern understanding of these garments, as the texts from Nuzi, among others, show it.<sup>9</sup>

### 2.a.1. *Scale armour*

The many material remains of scale armours that were recovered from II<sup>nd</sup> Millennium B.C. contexts in the ancient Near East find their equivalents, or so, depicted on the somewhat later Egyptian paintings and reliefs of the XVIII<sup>th</sup> and XIX<sup>th</sup> Dynasty in Egypt (Figure 9-10).<sup>10</sup>

The material, textual and visual evidences clearly link scale armour to chariots and chariotry (Figure 11).

One will notice that the scale armour covers the entire body of soldiers: the front, the back, the shoulders, and even the collar sometimes.

### 2.a.2. *Tuttitu?*

Nigel Tallis presents the depiction of an Egyptian soldier, wearing a circular breastplate, but without giving the precise reference to the source that support this assertion.<sup>11</sup>

With that, he also changes the appearance of the figure depicted with that kind of local *tuttitu* on the original material for unknown reasons, to provide it with long hair and kilt (Figure 12).<sup>12</sup>

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<sup>8</sup> Starr 1939: pl. 126, A-L; Neve 1992: Ab. 65; Al Maqdissi 2008: 261, fig. 47e.

<sup>9</sup> Negri-Scafa 1981: 53-69; Zaccagnini 1979: 1-27.

<sup>10</sup> Robinson 1967: 2, fig. 1.

<sup>11</sup> If N. Tallis and N. Stillmann were satisfied to publish fragmentary data that way, it is not the situation of the present author: the two human figures depicted with such a breastplate appear after the shield-bearer, on the right side of the second row from the top of the big scene painted on the left wall of the Tomb of Djehoutyhotep (T17L20/1, El Bersheh, Egypt), just behind the shoulder of the big standing figure with the staff and sceptre.

## 2.b. *Shields*

Shields are hardly depicted on the II<sup>nd</sup> Millennium B.C. visual evidence from the ancient Near East. On the other hand, the Egyptian reliefs of the later XVIII<sup>th</sup> and XIX<sup>th</sup> Dynasty show some of these objects wielded by the Eastern enemies (Figure 13-14).

The material remains of shields from the II<sup>nd</sup> Millennium B.C. in the ancient Near East are also, until now and known, unavailable.

### 2.b.1. *Small shield*

The shields, wielded by men busy with archers on chariots during the battles are either square or circular, sometimes perhaps reinforced with studded, flat or interwoven materials (Figure 13-14).<sup>13</sup>

### 2.b.2. *Siege-shield?*

No figurative evidence can present, as far as it is known nowadays, the depiction of a siege-shield during this period.

Anyhow, the comparative study of the Egyptian reliefs and paintings with the later depictions of the Neo-Assyrian battle tactics in the same kind of context, by the same type of soldiers with the same kind of equipment would let one assume these were used as well (Figure 15-16).

## 2.c. *First Remarks*

This time, the shields appear to be used as secondary armours, with the scale armour covering much more of the body of the soldiers.

The reason of this fact lies with the development of composite and stronger bows, requiring the speed of loading imposed by the employment of those weapons as machine-guns on the field of battle. This tactic leads the archer to be a kind of a fortified redoubt, open to the missiles from any directions but, in the meantime, having a much more wider arc of fire than the III<sup>rd</sup> Millennium ones.

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<sup>12</sup> Tallis 1984: 93, fig. 6; 94.

<sup>13</sup> De Backer 2010a.

Thus, the improvement of these Shooting Redoubts tactic, developing the arc and rate of fire they can cover imposed the reduction of the size of the shield.<sup>14</sup> One will also think that the enhancement of the vector, the chariots, would be influenced by this opinion, and thus lead the addition of a shield-bearer of the rear of the vehicles.<sup>15</sup>

The higher status of these élite soldiers, either *maryannu* professionals or levy, can be assumed by their detailed, numerous and conspicuous depictions on the Egyptian reliefs. Depicting one vanquishing the best troops of one's enemy can be a good way to please gods, kings and people on conspicuous consumption-related monuments, like temples.

### 3. 1<sup>ST</sup> MILLENNIUM

A lot of different evidence, textual, archaeological and visual, provide a very detailed range of data on the 1<sup>st</sup> Millennium B.C. armours.<sup>16</sup>

The shields are more hazy a subject, which should need deeper investigation in the future research, but some later civilisations will provide essential data on that matter.

#### 3.a. *Armours*

The detailed study of the 1<sup>st</sup> Millenium B.C. is not the topic of this publication, but will appear in some forthcoming ones. As one surely knows, the remains and depictions of these materials range from Anatolia to Iraq, and present a huge catalogue of different kinds of armours.<sup>17</sup>

##### 3.a.1. *Scale Armour*

In the first part of the Neo-Assyrian period, archers are protected with a huge scale armour, during sieges or in pitch battles, but the spearmen

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<sup>14</sup> De Backer 2010b.

<sup>15</sup> For further discussion, see De Backer, forthcoming a.

<sup>16</sup> De Backer 2011.

<sup>17</sup> De Backer, Scale Armour in the Neo-Assyrian Period : A Survey, (forthcoming).

climbing the ladder appear to wear this huge and heavy kind of garment, just like the sappers and the slingers, as well (Figure 15-17; 20; 22-23; 25).<sup>18</sup>

### 3.a.2. *Tuttitu*

Between the X<sup>th</sup> and the VII<sup>th</sup> centuries B.C. at least, the lighter spearmen of the ancient near eastern armies were protected by a *tuttitu* baldric, with two *irtu* discs, one on the breast and one on the back of the soldier (Figure 18-19; 21).<sup>19</sup> Thus one can assume this is the new kind of armour intended to protect the close combat troops from the enemy weapons.

Apart from the Urartean and the Neo-Assyrian visual monuments, it seems there are no other depictions of a *tuttitu*, with or without *irtu* discs, that are published nowadays.

One material sample of what is thought to be a *tuttitu* by the present author has been recovered in eastern Turkey, and already is the topic of another paper.<sup>20</sup>

Interestingly, archers are never depicted with the *tuttitu* (Figure 21).<sup>21</sup>

### 3.b. *Shields*

A wide diversity of shields are represented throughout the Neo-Assyrian era, and it appears all types could be employed in sieges or in pitch battle contexts (Figure 16; 20).

#### 3.b.1. *Small shield*

The improvement of shield-making lead the Neo-Assyrian military thinkers to design a particular formation for the infantry soldiers, employing the assets of spear and bow altogether (Figure 16; 20; 21).<sup>22</sup>

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<sup>18</sup> De Backer 2007: 45-64; De Backer, The Neo-Assyrian Siege-Archers: Some Remarks, (forthcoming).

<sup>19</sup> De Backer, Un plastron d'époque néo-assyrienne, (forthcoming).

<sup>20</sup> *Ibidem*.

<sup>21</sup> De Backer 2011, (forthcoming).

<sup>22</sup> De Backer 2009: 69-115.



This military change could have been done earlier, but no sources support that assertion for the moment.

Interestingly, the same kind of doctrine was applied during the pre-sargonid period to chariotry and to the cavalrymen, although here they do not wear an armour when wielding a shield (Figure 15; 24).<sup>23</sup>

This adoption of the new vector, riding horse, imposed the soldiers to be light enough, to enhance the duration of the reserve of energy for the horse, and to keep on the rate of fire, by letting the limbs of the soldiers free (Figure 23; 25).

In fact, as the arc of fire of the archers was reduced following the system of reins and the lack of motion allowed by the mass of the horses, they had to keep light enough to assume a correct, quite fast rate of fire.

### 3.b.2. *Siege-shield*

The siege-shield was employed in pitch and siege battles during the Pre-Sargonids, and it clearly shows numerous similarities with the shields of this kind represented in the III<sup>rd</sup> Millennium B.C., at Mari (Figure 20; 22; 2).

### 3.c. *First Remarks*

The Neo-Assyrians reached a high level of military might when they employed numerous and complicated formations, including different types of soldiers, with different types of armours on three vectors.

Their adoption of the multi-functions units, able to fight in pitch and siege battles, on foot or embarked on a chariot shows a very different sight of the status among soldiers. Actually, the equipment does no more rely on the idea of élite status, at least mainly, but represents more the multi-faceted competences of each soldier.

The close position to the king is no more the real matter, as this one tends to disappear from the official, ancient near eastern, detailed battle scenes, from the reign of Sargon II onward.

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<sup>23</sup> *Ibidem.*

## CONCLUSION

The armour and the shield seemingly took different path to cross their ways during the basic evolution of arms and armours between the III<sup>rd</sup> and the I<sup>st</sup> Millennium B.C. in the ancient Near East, or partly at least.

The common evolution and reciprocal dominance of both this materials found their best development with the Neo-Assyrians, when those balancing equipments just matched altogether to provide very effective tactics.

### *I. Reciprocal Dominance*

The reciprocal evidence of the armour and the shield will be understood with the help of some schematics.

An archer is highly vulnerable to the enemy missiles, but his speed of movement, improved by the absence of armour, can help him avoid the threats. As he shoots, the bowman takes a profile stance, and thus is highly vulnerable on his right flank (Figure 26). His other main weakness lies in the distance he has to keep with the close-combat specialised enemies, a reason for which he must have a wide arc of fire and a high rate of fire (Figure 27). One can then understand that armour, being harder and longer to produce, was second to the shield and weaponry during the older times.

The development of spearmen is no part of a military thinking designed to find a mean to protect archers from the close-range weapons of the foe, but represents the first type of warrior ever : a man with a staff. A spearman is highly dangerous in close-combat, and only partly vulnerable to missiles, for the resilience of his shield can absorb and deflect the threats (Figure 28). The huge weakness of this kind of warrior, lies in the small segment of perimeter he can protect with his shielded arm, his weak point being on the left of his left arm (Figure 29). By the way, spearmen must have been employed in mass, with the protruding shafts and spearheads deflecting slightly the missiles (Figure 30).

Being only vulnerable to the missiles in direct range, from the front or above, suspending a kind of shield to the breasts of pikemen was a very

good idea, allowing thus the soldiers to put them on the ground when they had a stop, just like a siege-shield (Figure 4; 2).

Protecting the sides of the warriors allowed the chiefs to employ them in much smaller, dispersed formations. This way, they could take advantages of the arc of fire they covered, with the strong resistance and shock they can provide.

## II. *Common Evolution*

One understands the very first shields must have been designed by hunter-gatherers warriors and would have been intended for both the hunt and the tribal wars. Actually, some African people employed the shield to protect themselves from a raging beast, like a lion or a boar, while one of their fellows would shoot at the beast, as did Sir Baden-Powell in Africa, at the beginning of the XX<sup>th</sup> century. This tactic can remind one of those investigated in these lines.

The development of armour clearly links the warrior to the missile weapons. By the way, a shield is firstly a weapon, a mean of “aggressive defence”, and can be used to hit the enemy, while armour means “passive defence”.

An armour is supposed to absorb or deflect the threats, something which explains why the III<sup>rd</sup> Millennium pikemen of Ur wear such a huge cape or the most vulnerable parts of their body : the shoulders. One can assume the shields depicted on Eannatum’s Stele of the Vultures much more belong to this doctrine, and can then be understood as an interesting experiment in military history, tending to combine the passive and active assets of an object supposed to be both a weapon and a garment.

Clearly, the choice have quickly been made on the covering armour, a fact connected to the huge employment of missile weapons and faster vectors, the chariots during the II<sup>nd</sup> Millennium B.C. This will be supported and enhanced by the evolution of scale armours during the Neo-Assyrian and Persian eras, when most soldiers will wear such a kind of garment, either on foot, horseback or chariot.

The mix of archer, scale armour, spear and huge shields in pitch battles will start to appear from the Neo-Assyrian period, as a brief

experiment under Shalmaneser III, but will be the clear innovation of the Persians, as it is depicted on later attic wares.

This shows how interested and pragmatic were the ancient near eastern military thinkers in researching the best means to reach the smallest amount of casualty possible.

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Fig. 1: Early Dynastic pikemen advance to combat with their shoulders and torso covered by an armour corslet (Yadin 1963: 132-135).



Fig. 2: Siege-redoubt archer and shield-bearer wearing armour corslet during the Early Dynastic Period (Montero Fenollós 2003: 226, fig. 3, n° 1).



Fig. 3: The *tuttitu* as it is depicted on the torso of Akkadian soldiers (Amiet 1976: 25; 90, fig. 25 a.).

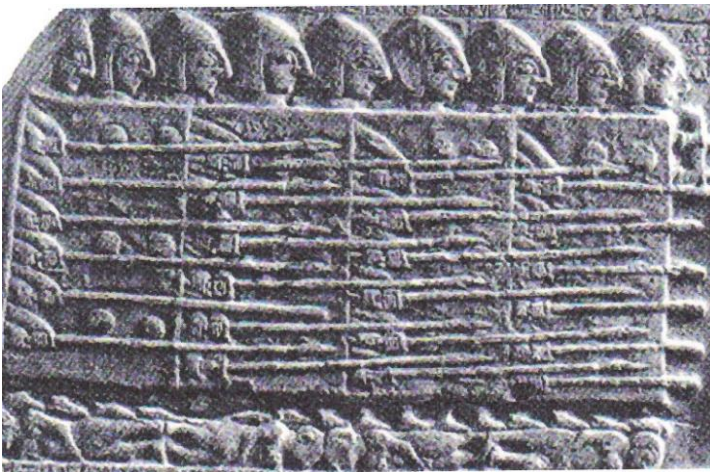


Figure 4: The pikemen of Lagash advance to attack with their shield suspended ahead to protect their torso (Yadin1963: 134-135).





Fig. 5: Chariot depicted while charging and followed by accompanying Infantry on the Stele of the Vultures (Yadin 1963: 134-135).

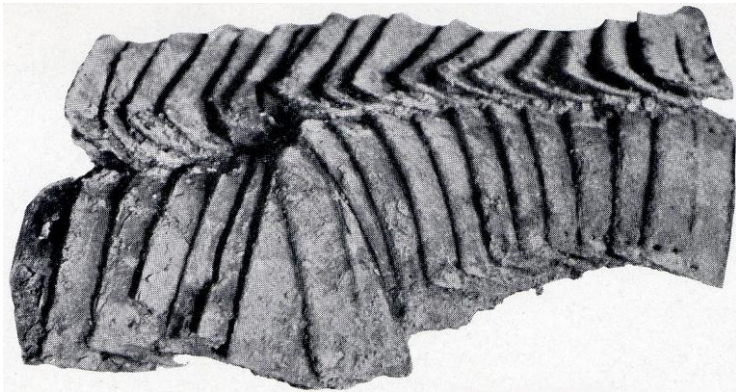


Fig. 6: Piece of scale armour from Nuzi (Starr 1939: 475ff.; pl.126, A-L).



Fig. 7: Piece of scale armour from Hattusah (Neve 1999: pl. 25, b; pl. 32, a-c).

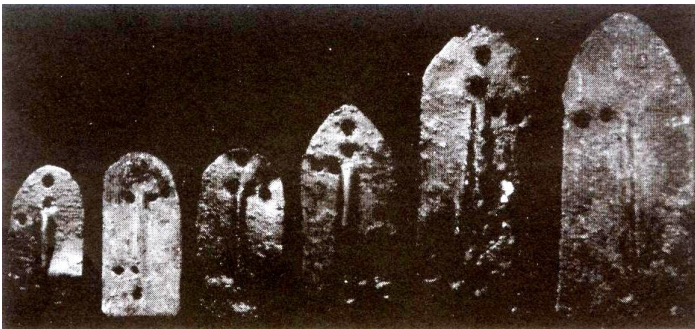


Fig. 8: Piece of armour from Ugarit (Al Maqdissi 2008: 261, fig. 47 e).

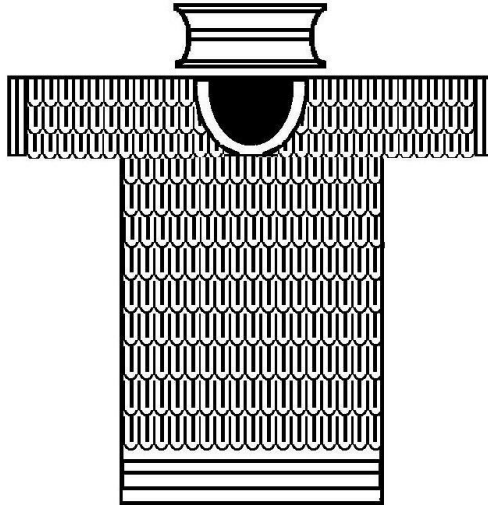


Fig. 9: Scale armour painted in the Tomb of Kenamun. Drawing by the author.

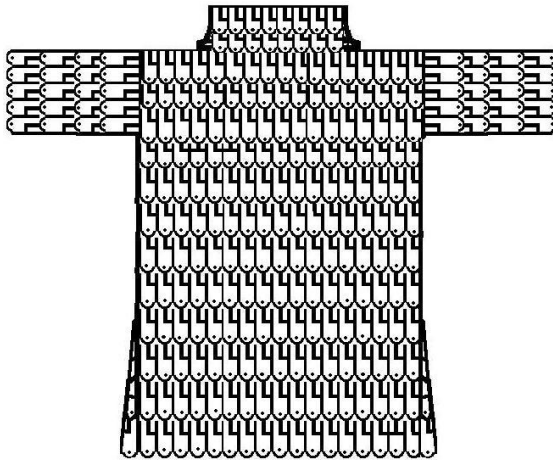


Fig. 10: Scale armour painted in the Tomb of Ramses III. Drawing by the author.

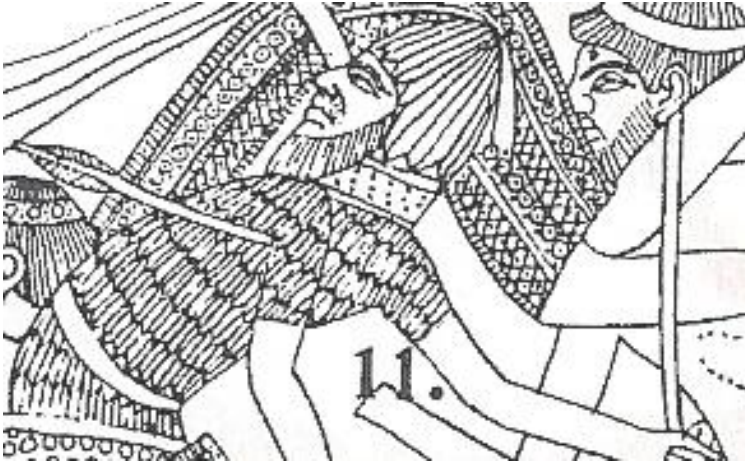


Fig. 11: Eastern enemy from the *maryannu* nobility depicted on the parade chariot of Thuthmosis III (Yadin 1963: 193).

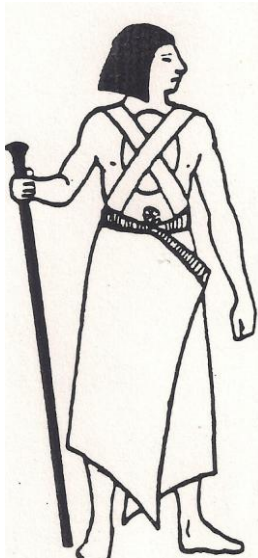


Fig. 12: Egyptian warrior with a circular breastplate closely similar to the *irtu* discs and *tuttiu* baldric (Tallis 1984: 93, fig. 6).



Fig. 13: Thutmosis III pursues *maryannu* charioteers fleeing in their chariot and engages in hand-to-hand combat from the back of their vehicle (Yadin 1963: 194).

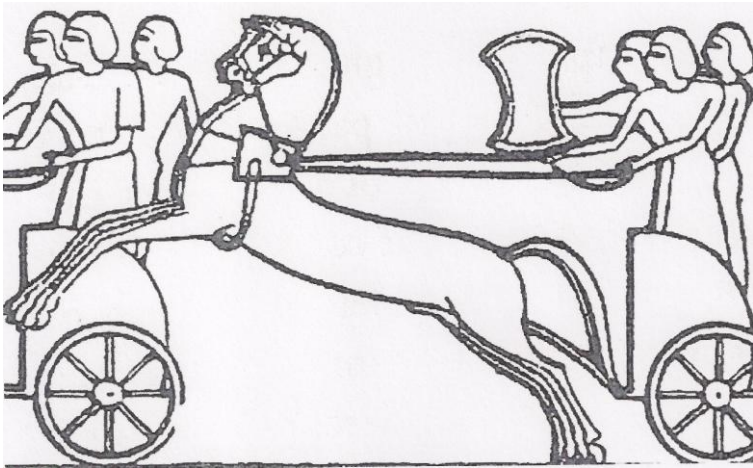


Fig. 14: The Hittite chariot-crew and the third man handling a shield, based on the reliefs of Ramses II (Yadin 1963: 88).



Fig. 15: Chariot Crew of Assurnasirpal II (Barnett 1962: 171).

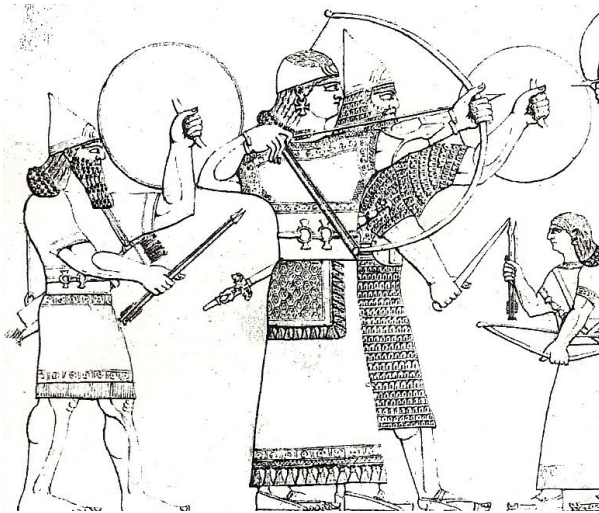


Fig. 16: Siege Redoubt of Assurnasirpal II (Barnett 1962: 178).

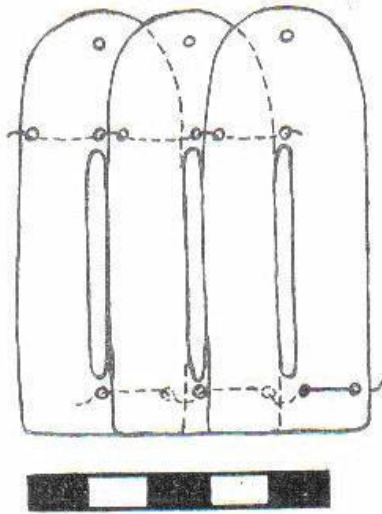


Fig. 17: Scale armour discovered in the ruins of Fort Shalmaneser at Nimrud (Stronach 1958: pl. XXXIV, 1).

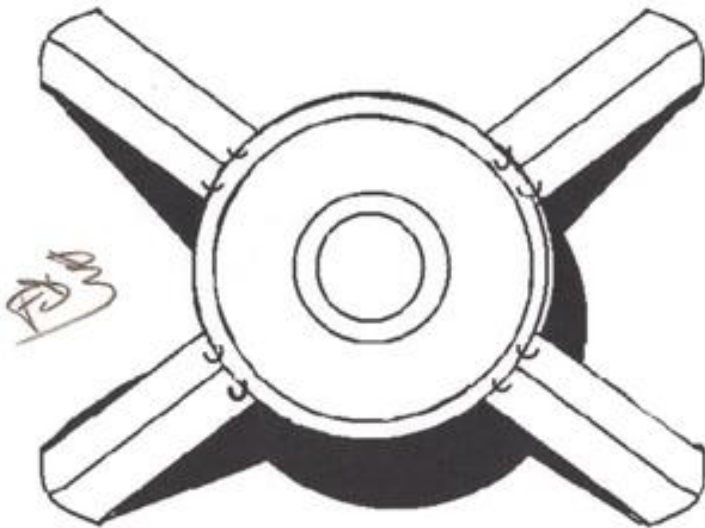


Fig. 18: *Tuttitu* baldrac and *irtu* discs as it appears on the Neo-Assyrian visual materials. Drawing by the author.



Fig. 19: The Urartean warriors depicted on the bronze bands of Shalmaneser III (King 1915: pl. XXXVIII, Bd. VII, 1).



Fig. 20: Siege Redoubts depicted with the huge siege-shield on the bronze bands of Shalmaneser III (King 1915: pl. III, Bd. I, 3 [détail]).



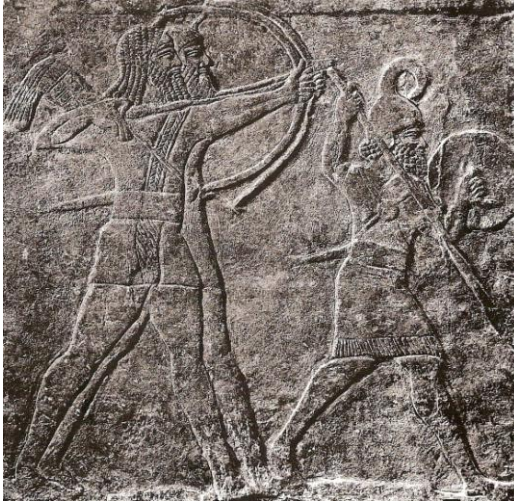


Fig. 21: A Neo-Assyrian Infantry couple of archer-spearman/shield-bearer as it appears on the reliefs of Tiglath-Pileser III (Barnett 1962: 84).



Fig. 22: A Neo-Assyrian Siege Redoubt depicted on the reliefs of the Late Sargonids (Barnett 1998: pl. 511, 722).

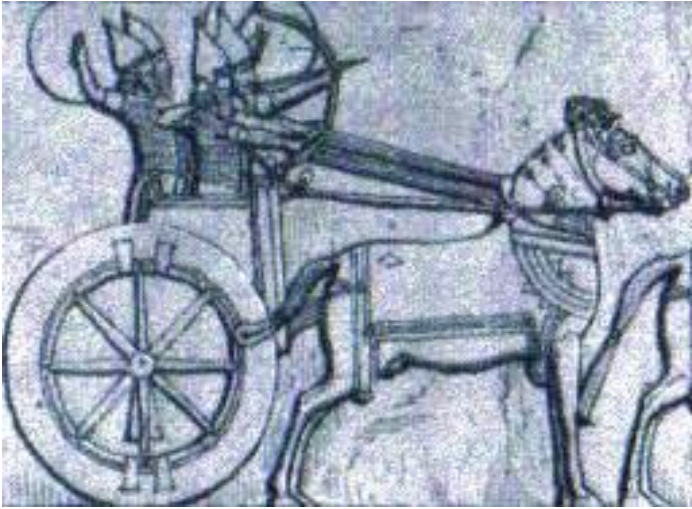


Fig. 23: A Neo-Assyrian chariot crew as depicted on the reliefs of the Late Sargonids (Barnett 1976: pl. LXIX).



Fig. 24: A Neo-Assyrian Cavalry couple of archer and shield-bearer/ Spearman (Wallis-Budge 1914: pl. XV, 1).

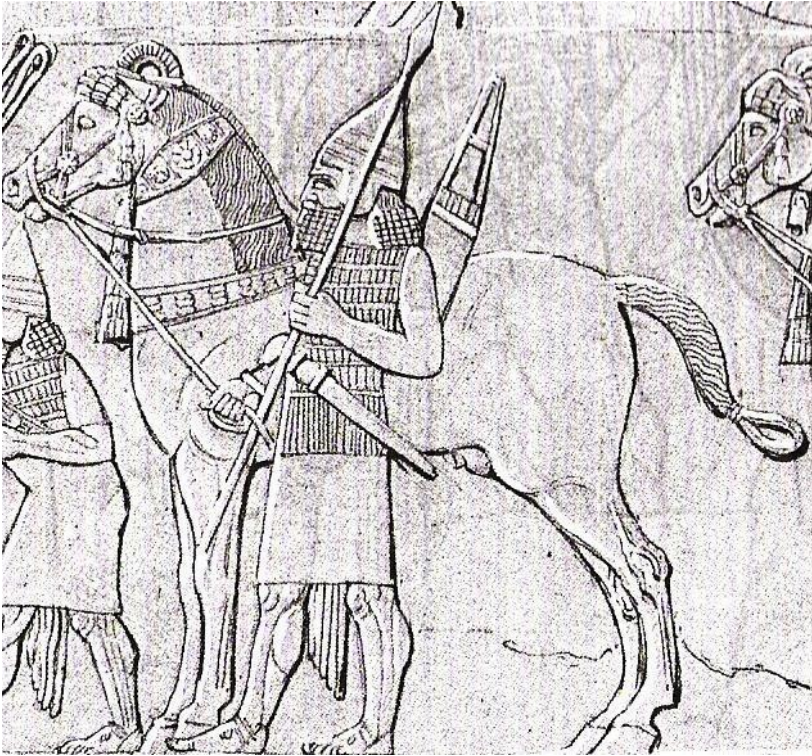


Fig. 25: A Neo-Assyrian Archer-Spearman as depicted on the reliefs of the Late Sargonids (Barnett 1998: pl. 458, n° 628 a).

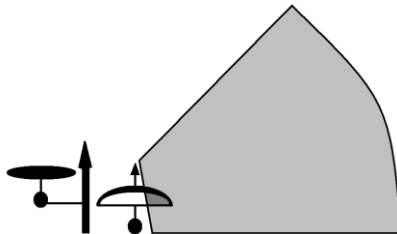


Fig. 26: Vulnerability angle of the archer. Drawing by the author.

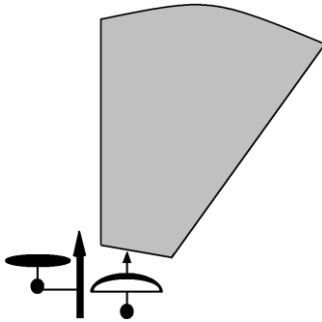


Fig. 27: Angle of fire for the archer. Drawing by the author.

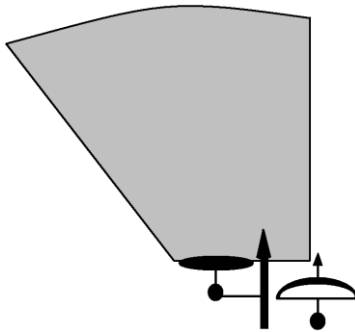


Figure 28 : Resilience angle of the shield-bearer. Drawing by the author.

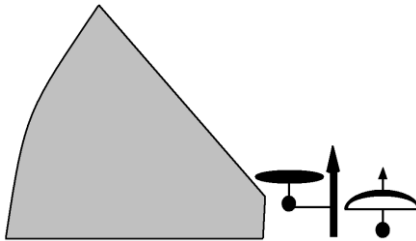


Fig. 29: Vulnerability angle of the shield-bearer. Drawing by the author.

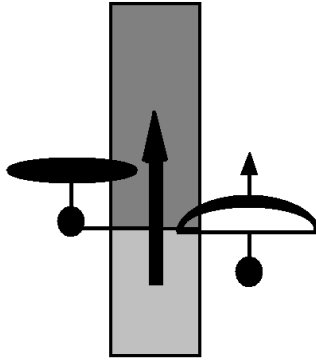


Fig. 30: Minimal motion area required for the shield-bearer. Drawing by the author.