

# Medieval Warfare: Arms, Armour and Tactics during the Crusades 1096-1204

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**MEDIEVAL WARFARE: ARMS, ARMOUR AND TACTICS DURING THE  
CRUSADES 1096 - 1204**

**MA THESIS**

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**MEDIEVAL WARFARE: ARMS, ARMOUR AND TACTICS DURING THE  
CRUSADES 1096 - 1204**

**MA THESIS**

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# 1. INTRODUCTION

The Crusades were a time of turmoil and large conflicts with unforeseen consequences. The people of both Western Europe and the Middle East clashed together, fighting for, either, their beliefs or other material gains. When it comes to wars, there are always two things that are a constant throughout history of warfare: whether they are holy or not, wars are always thought by implementing military theory, tactics, strategies and they are always fought while wearing armour and wielding weapons. In the terms of Early and High Middle Ages, there is simply no war without arms and armour and the infantrymen and cavalrymen which fight those wars. In times of warfare, soldiers are the first to find out the strength of the enemy's weapon or the density of his armour. Moreover, tactics are the other side of the coin. It takes one thing to develop a strategy which works the best for your soldiers. The adaptation of your tactics to exploit the weaknesses in the tactics and strategies of your enemies is a completely different aspect which requires careful observation and analysis of your opponents.

Before analysing the arms and armour of the infantrymen and cavalrymen of Western Europe and the Muslim world of the Middle East, there needs to be an overview of the major, key events which transpired between the First (1096) and the Fourth Crusade (1204). That chapter will further analyse the attitudes of the Western Europe (i.e. the general attitude) towards the Muslim world of the Middle East and how the power of ideology and propaganda play a role in forming certain beliefs. Moreover, there will be a mention on the ideological approach to the Crusade, i.e. waging a holy war and how did the concepts of sin and heaven influence the Crusaders. The last part of this chapter will deal with the knowledge of the Muslim world in the Middle East about Western Europe before the era of the Crusades. Moreover, without complications, the concept of *jihad* will be explained with a comparison to the concept of a crusade.

The second chapter will deal with the analysis of the weapons, armour used in Western Europe before the Crusades (Norman and English infantrymen and cavalrymen during the Battle of Hastings) and during the Crusades (analysis of a Crusader knight and the Frankish infantry and cavalry units, i.e. mounted sergeants, infantrymen). Likewise, Muslim forces of the Middle East and Egypt (because they fought the Crusaders in the Holy Land) would be analysed as well, thus

the next part of the section would mention the Seljuk Turks (cavalrymen, Turcoman tribesmen, heavy cavalrymen, infantrymen), the Fatimids (infantrymen and cavalrymen) and the Ayyubid heavy cavalrymen. Seeing as how there were, logically, more groups operating on both sides of the conflict and serving in their armies, this dissertation will focus on the groups mentioned above, including the mention of Frankish and Muslim horses and their equipment (due to the importance of cavalry units in both armies). The final part of the section will draw a small conclusion on the chapter with arms and armour with providing a small glimpse into the possibility of a small-scale mutual influence when it comes to arms and armour between the late 11<sup>th</sup> and late 12<sup>th</sup> centuries.

The final chapter will provide an analysis into the tactics and strategies practiced by both the Frankish armies and the Muslim armies (of the Turks and the armies of Egypt before and after Saladin). During the explanation of each tactic, the other will be mentioned as well, for providing an insight into the possibilities of adaptation of tactics after experiencing them on the battlefields.

## 1.1 Overview of primary and secondary sources

This section will be analysed in terms of the three chapters and which primary and secondary sources were used. Moreover, there is a certain lack of, especially, primary sources due to either unavailability of some of them, thus the necessary information had to be taken from several secondary sources which were based on the accounts of primary sources.

When it comes to the first chapter, the general overview of the events between the First and the Fourth Crusade is given by Jonathan Riley-Smith (*The Crusading Movement and Historians*, presented in *The Oxford History of the Crusades*, edited by Jonathan Riley-Smith). The next section which deals with the attitudes, ideology and propaganda of Western Europe towards the Muslim World of the Middle East is primarily analysed through the books by John France, *Western Warfare in the Age of the Crusades 1000 – 1300* and *Victory in the East: A Military History of the First Crusade*. The poem *Song of Roland* (by an anonymous author) and the work of Rodulfus Glaber, *The Five Books of Histories* are used as primary sources to further support the aspect of prejudice of the people of Western Europe. France's books are further used to describe the concept of holy wars and the ideological aspect behind the Crusades, as well as the concept of sin and salvation which motivated people to join the Crusades. Alongside France, we have the work of George T. Dennis, *Defenders of the Christian People: Holy War in Byzantium*, presented in *The Crusades from the Perspective of Byzantium and the Muslim World*, edited by Angeliki E. Laiou and Roy Parviz Mottahedeh. This section also mentions the document which describes the Knights Templar, *In Praise of the New Knighthood* by Bernard of Clairvaux, and the account of Fulcher of Chantres, presented in *The First Crusade: The Accounts of Eye-witnesses and Participants* (edited by August C. Krey), alongside Riley-Smith's work. The next section which deals with the pre-Crusade knowledge the Muslims of the Middle East had of Western Europe and its people will mostly be deduced from the works of David Nicolle (*Essential Histories: The Crusades*), France (*Western Warfare in the Age of the Crusades 1000 – 1300*), Paul M. Cobb (*The Race for Paradise: An Islamic History of The Crusades*), Steven Runciman (*A History of the Crusades: Volume 1: The First Crusade and the Foundation of the Kingdom of Jerusalem*), Chase F. Robinson (*The New Cambridge History of Islam: Volume 1: The Formation of the Islamic World, Sixth to Eleventh Centuries*) with additional information from Andrea Borruso (*Some Arab-Muslim Perceptions of Religion and Medieval Culture in Sicily*, presented in *Muslim Perceptions of Other*

*Religions: A Historical Survey* which is edited by Jacques Waardenburg). The accounts of Guibert of Nogent are mentioned here, through his *The Deeds of God Through the Franks*. The concept of *jihad* in comparison with the Crusades is being written by using the works of Cobb and Roy Parviz Mottahedeh and Ridwan al-Sayyid (*The Idea of the Jihad in Islam before the Crusades*), including, *The Encyclopaedia of Islam* (edited by Clifford Edmund Bosworth).

The next chapter which deals with arms and armour of Western European crusaders and the Muslim forces of the Middle East is referenced, due to the unavailability of several primary sources, mostly from secondary sources which has been already mentioned. For the section of the Western European warriors before the Crusade, the Bayeux Tapestry is the main primary source (alongside an additional type of helmet which can be seen at the Metropolitan Museum of Art). An additional source is an excerpt from the *Strategikon*, written by the Byzantine emperor Maurice. The main secondary source is provided by Kelly DeVries' and Robert D. Smith's work (*Medieval Weapons: An Illustrated History of Their Impact*) and the official website of English Heritage which also explains the arms and armour in 1066 by using The Bayeux Tapestry. The section regarding the knights and Frankish soldiers of the Crusade is covered, primarily, by the illustrations and descriptive information provided by Christa Hook and David Nicolle (*Crusader Knight 1187 – 1344 AD*) and Ian Heath (*Armies and Enemies of the Crusades 1096 – 1291: Organisation, tactics, dress and weapons*). Alongside these sources, when we speak about the armour and clothing, additional insight is provided in *The Medieval World* (by Philip Steele) and *The Dictionary of Fashion History* (by Valerie Cumming, C. Willett Cunnington & Phillis E. Cunnington). The primary sources for this section include the poem *Raoul de Cambrai* (edited by Sarah Kay), the *Alexiad* by Anna Comnena (available at the Internet Medieval History Sourcebook) and the accounts of Beha ed-Din, *Life of Saladin*. As for the Muslim arms and armour, main sources include Heath's work, David Nicolle's *Arms and Armour of the Crusading Era, 1050 – 1350: Islam, Eastern Europe and Asia, Medieval Islamic Civilization: An Encyclopedia* (edited by Josef W. Meri). The primary sources which are used here are based on the accounts of Usamah ibn-Munqidh, *An Arab-Syrian Gentleman and Warrior in the Period of the Crusades*, and Niketas Choniates, *O City of Byzantium, Annals of Niketas Choniates*. Nicolle's *Arms and Armour of the Crusading Era, 1050 – 1350: Western Europe and the Crusader States* and Heath's work are used to add additional information to the possible mutual influence of arms and armour, including the



work by Louis M. Sylvester, Mark C. Chambers, Gale R. Owen-Crocker (*Medieval Dress and Textiles in Britain: A Multilingual Sourcebook*).

The final chapter is regarding Christian and Muslim tactics. The tactics of the Crusader infantry and cavalry units are described, primarily, through the works of David Nicolle (*European Medieval Tactics (1): The Fall and Rise of Cavalry 450-1260*), John France (*Western Warfare in the Age of the Crusades, 1000 – 1300*), J. F. Verbruggen (*The Art of Warfare in Western Europe during the Middle Ages: From the Eight Century to 1340*), R. C. Smail (*Crusading Warfare, 1097 – 1193*), Hellen J. Nicholson and David Nicolle (*God's Warriors: Crusaders, Saracens and the Battle for Jerusalem*). Beha ed-Din's *Life of Saladin*, and Comnena's *Alexiad* serve as the primary sources. As for the tactics of the Muslim cavalrymen and infantrymen, Smail's *Crusading Warfare* and Nicholson's and Nicolle's *God's Warriors* serve as the secondary sources, while Usamah's and Comnena's account, including the description of the Battle of Hattin (from *De Expugatione Terrae Sancta per Saladinum*, available at the Internet Medieval History Sourcebook), serve as primary sources.

## 2. OVERVIEW

### 2.1 From the First to the Fourth Crusade

Before venturing more into the area of medieval warfare, there needs to be a clarification on the historical setting, i.e. the events which lead to the First Crusade until the Fall of Constantinople (1204.), a key event of the Fourth Crusade.

The Crusades' unofficial beginnings originated at a Church council meeting at Clermont, November 1095. The Pope, Urban II, was the leading figure of the council meeting. As the meeting was nearing its end, with the churchmen and some of the people from the neighbouring countryside being present at the meeting, Pope Urban II held a sermon during which he called out a rallying cry, a cry for the Frankish knights to give a vow to march towards the East and retake the holy places of Christendom in the Holy Land from the occupying Muslim forces and their rulers. Urban II put an emphasis on the importance of liberating the tomb of Jesus Christ, the Holy Sepulchre, from the Muslims.<sup>1</sup> The rallying war effort, due to an earlier Urban's idea, was to be combined with providing military support to the desperate Byzantine Empire and its emperor Alexios I who sent a call for aid to Western Europe, i.e. the Church of Rome. His call was about the Turks who swept through Asia and were dangerously closing in onto the Bosphorus. The Pope went on a campaign of rallying people to the Crusader cause and, ultimately, it resulted with the event which we know as the First Crusade (1096 – 1102). The First Crusade was a huge success, resulting in the conquering of Jerusalem in 1099.<sup>2</sup>

The Crusaders did not stop there. Jerusalem was but a city, surrounded by enemy forces, thus it could not be held on its own. The crusading forces decided, consequently, to establish a collection of settlements in the area known as the Levant (or Latin East). Such a huge area had to be efficiently organized, which resulted in the formation of a number of military orders. Their mission was to assist the military in ruling and establish a functioning administration in the Levant. As the settlements in the Levant area were being organized, the Crusaders were not sitting idle. They waged several campaigns against the surrounding areas (1107 – 8, 1120 – 25, 1128 – 29, 1139 – 40 and 1147 – 49). The last one was remembered as the Second Crusade. Parallely, the Crusader

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<sup>1</sup> RILEY-SMITH, 1999, 1.

<sup>2</sup> RILEY-SMITH, 1999, 2.

movement took roots in southern Spain against the Moor occupation, i.e. the *reconquista*. Alongside the campaigns in the East and in southern Spain, Pope Eugenius III authorized a third crusade in north-east Germany, against the Wends. Although the Second Crusade was an ambitious undertaking, it turned out to be a complete failure which became clear with the overwhelming Muslim victory at the Battle of Hattin, the loss of Jerusalem and, nearly, the entire territory of Palestine to Saladin and his armies, in 1187.<sup>3</sup>

The loss which the Christian Europe suffered at the end of the Second Crusade was nerve-wrecking and shocking, but it did not put an end to the conflict. There were two more Crusades in succession: The Third Crusade (1189 – 92) and the German Crusade (1197 – 98). These crusades had a better outcome, as they resulted in recovering most of the coastal area which, in turn, prolonged the preservation of the Latin settlements. With the military success proving to be a source of delight among the citizens of Europe, the Crusader forces moved towards the East in 1202 – 4, which became known as the Fourth Crusade. During this military endeavour, Crusader armies besieged Constantinople and took it for themselves, including a large portion of Greece's territory, never reaching the Holy Land which was the intended location.<sup>4</sup>

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<sup>3</sup> RILEY-SMITH, 1999, 2-3.

<sup>4</sup> RILEY-SMITH, 1999, 3.

## 2.2 The attitude of Christian (Western) Europe towards the Muslim world of the Middle East – ideology and propaganda

Medieval warfare during the Crusades cannot be simply covered through a narrative overview of general historical knowledge and a chronology of key events. Thus, there needs to be an additional insight into the warfare of Western Europe and its stance towards the Muslim world and vice-versa, just as how Crusaders practiced their techniques of warfare in the Middle East. John France provides the necessary insight in his book *Western Warfare in the Age of the Crusades 1000 – 1300*. France gives a perspective of a Catholic Europe during the Crusades, also portraying the behaviour towards the Muslim World and, generally, to anyone considered to be different. It is no miracle that Western Europe was exposed to the influence of different and foreign cultures and societies, but it is the behaviour and possible prejudices which are in focus here and Western Europe's response to that influx of foreign influence.

France points out the Muslims as a clear example. They were not thought of as “barbarians” (at least, not all the time), but they were more often viewed as heathens, i.e. heretics. Some laymen considered them pagans.<sup>5</sup> France makes a notion towards Rodulfus Glaber and his work, *The Five Books of Histories*. In his work, Glaber recounts the interactions between the Saracens and the monks of Cluny. Although not stated specifically, the Saracens (i.e. Muslims) are portrayed as people who follow similar customs and beliefs when compared to Christianity and are seen to show respect towards the Christian faith (severely punishing their brethren who had the audacity to display disrespect towards the Christian faith and beliefs), but they are still shown as being different, foreign than the people of Western Europe. In the next section, the term “pagans” is used to describe the Saracen attackers.<sup>6</sup> The same tone and prejudice is seen in the *Song of Roland*. The poem itself, written by an unknown author, has many prejudices towards the Muslims and their faith. One example is the verse: “Pagans are wrong: Christians are right indeed.”<sup>7</sup> This just shows the prejudice that the Muslims are those who believe in the wrong way, although it could be viewed as mere propaganda against the occupation, because the poem takes place during the *reconquista*.

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<sup>5</sup> FRANCE, 1999, 187-88.

<sup>6</sup> GLABER, 1989, 19-23.

<sup>7</sup> MONCRIEF, 2005, 55.

According to France, the Christian presence in the Holy Land was of an ideological stance and out of sheer hate and prejudice towards the Muslims and their faith. That was instrumental for the causing and emergence of the First Crusade. Although there was a lot of hate towards the Muslims, the Christians saw the benefits of forming and maintaining diplomatic relations with the Muslim world and its leaders.<sup>8</sup> To support this claim, France refers to one of his other books, *Victory in the East: A Military History of the First Crusade* which, in turn, provides information from the accounts of Raymond of Aguilers about the Crusaders brokering a deal with the Muslims near the end of the First Crusade. The account narrates how the Crusader army was willing to ally itself with al-Afdal, a Fatimid vizier of Egypt. The offer for the alliance was very straightforward: the Crusaders would restore his (Al-Afdal's) lost property, which was confiscated by the Turks, and, in return, he would return Jerusalem and its surrounding lands back to the Crusaders.<sup>9</sup> Although the negotiations were not successful (as Jerusalem was conquered by Crusader forces in 1099), it is seen that the Crusaders of Western Europe tried to avoid unnecessary bloodshed by following a more diplomatic approach.

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<sup>8</sup> FRANCE, 1999, 188.

<sup>9</sup> FRANCE, 1994, 253.

### 2.2.1 The ideological approach to the start of the Crusades (“holy wars”) – the impact of religion and the aspect of sin on Crusader soldiers

In the previous section, it was said how Pope Urban II rallied the people of Western Europe to go on a crusade against the Muslims to reclaim the holy places in the Holy Land. How could such a feat be achieved? Primarily, through a calculated use of ideology and propaganda. Pope Urban II accomplished an astonishing feat during the Church council meeting of Clermont in 1095. What needs to be said is that the people of the Middle Ages believed in the highest authority of the Catholic Church and they were very pious, which, consequently, opened a gateway to mass manipulation of the poor and religious masses (where the majority lacked the education which was, primarily, reserved to people in service to the Catholic Church). France, however, goes in a similar direction. He argues that the pope managed to do something which can only be seen as ideological manipulation. Urban II was asking about a military expedition to liberate the city of Jerusalem, a city which is thousands of kilometres away from Clermont, in a strange land with a different climate and inhabited by people who follow a completely different religion and who would show no quarter to the goals of liberating the holy places of Christendom. Also, the pope gave a proposition (not in these direct words): leave your families, lands and riches, take up your arms and armour and liberate Jerusalem from the pagans, the infidel. Do that and all your sins will be absolved and, if you would die on that quest, you would gain direct entry into Kingdom Come, i.e. heaven.<sup>10</sup> This is a concept which can be seen in other instances when considering the Crusades, like the Order of the Knights Templar. The abbot Bernard of Clairvaux wrote a treatise on the behalf of the Order of the Knights Templar, *In Praise of the New Knighthood*, which was used to promote the Order and explain it (its goal, purpose, beliefs, etc.) to the general populace. Bernard states that the Templars fight against the “foes of the Cross of Christ” and heretics.<sup>11</sup> This goes together with the previous statements that the Muslims were more often considered as heretics and not simple-minded barbarians. Moreover, Bernard mentions a certain “holy death”, i.e. death in battle against the enemies of God. During such a death, the knights are deemed worthy (which

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<sup>10</sup> FRANCE, 1999, 204.

<sup>11</sup> In Praise of the New Knighthood - Liber ad milites Templi: De laude novae militiae: Chapter 1 – A word of exhortation for the knights of the Temple (<http://www.templiers.org/elogie-chapitre1-eng.php> ; last accessed on: 4 September 2018)

would, presumably, give them the right to enter heaven).<sup>12</sup> This goes in conjunction with the sermons of Urban II which he preached during his process of rallying the people for the Crusades in central and southern France<sup>13</sup> and which stated that everybody who dies during the Crusades (and in battle against the Muslims) will find a rightful place in heaven.<sup>14</sup> Also, the concept of leaving everything of value to fight for a higher cause is also an interesting concept of propaganda and manipulation of ideology. The knight orders practiced it too, as it can be seen with the Knights Templar. Bernard wrote that the Templar knights need to follow several ways of life and one of them includes the abstinence of fighting for power, lust and the riches of this world.<sup>15</sup> However, not everyone was a part of a knightly order and not everyone was a blind follower. What could possibly influence the people, especially the people who had their fair share of materialistic riches, to just drop everything and go to a far-away place and, if everything went bad, lose their lives?

France gives some insight into this question. He notes an increase in religious activity from around the year 1000 with an increased presence of church patronages, worshipping of saints and pilgrimages to holy places.<sup>16</sup> This makes sense, as the medieval times were, among else, often described as being very religious, with people orientated towards the Catholic Church. That culminated, if we follow the course of history, in an age of degradation for the Church, including the “reign” of Alexander VI (Rodrigo Borgia), indulgency and the appearance of the Protestant movement. France further supports his claim by saying that the First Crusade was a success when it comes to the number of men who answered the summons of Urban II. According to Fulcher of Chartres’ accounts, the Crusader army which assembled for the siege of Nicaea had 600 000 soldiers of which 100 000 had helmets and leather corselets.<sup>17</sup> France refers to Fulcher’s account and includes the account of Ekkehard and his figure of 300 000 Crusader soldiers being present at Nicaea. However, he considers both numerical estimations to be a product of fantasy.<sup>18</sup> Nevertheless, Urban II managed to amass so many Crusaders to his cause. France makes the connection here, between religious belief and the huge support for the Crusades. Both men and

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<sup>12</sup> Ibid.

<sup>13</sup> RILEY-SMITH, 1999, 1-2.

<sup>14</sup> FRANCE, 1999, 204-5.

<sup>15</sup> In Praise of the New Knighthood – Liber ad milites Templi: De laude novae militiae: Chapter 4 – On the life style of the knights of the Temple (<http://www.templiers.org/elogie-chapitre4-eng.php> ; last accessed on: 4 September 2018)

<sup>16</sup> FRANCE, 1999, 205.

<sup>17</sup> KREY, 1921, 105.

<sup>18</sup> FRANCE, 1994, 127.

women in Western Europe were highly aware of their own sins or how sinful they can become and what are the unavoidable consequences of leading a sinful life (they would experience everlasting damnation in the depths of hell with no hope of ever seeing heaven). Thus, they anxiously wanted to avoid that predicament and become cleansed of their sins. With this wild card, Urban II had the perfect reason to convince the leaders of Western Europe by telling them that they would have their sins absolved if they went to war against the Muslims and freed the holy places of the heretics, especially the city of Jerusalem and the Holy Sepulchre.<sup>19</sup>

With this reasoning, the spiritual hunger has been satisfied, but what happened to the materialistic and proprietorial values? Whenever an army goes to war, there is a fair share of plundering and pillaging. That simply cannot be avoided. Urban II knew that and he did not even try to prohibit such actions as that would be a fruitless endeavour. Thus, he gave instruction that the Crusaders' salvation would come to them if they liberated Jerusalem out of spiritual needs and not materialistic ones, but he did not put a formal ban on acquiring territory and accumulating pillaged wealth. This mixture of materialistic and spiritual needs was the key of gaining the support of both the rich (the nobles, the wealthier knights, even kings) and the poor (peasants, commoners).<sup>20</sup> Basically, everyone had the opportunity to gain something for himself, something materialistic, something that can be felt and touched. That could explain the want of the people of Europe to join the Crusades.

The idea of using religion to wage wars, i.e. holy wars is, from what has been said so far, not too difficult to achieve. According to Dennis, it needs to be declared by a holy authority (in this case, the pope) and it needs to have a holy objective and/or a justified objective (those objectives often fall to protecting and recovering sacred places and/or shrines and either forced or voluntary conversion of people to the religion of the subjugator). Moreover, there is also the promise of a reward which would sate the spiritual hunger: absolving of sins and a prepared, i.e. reserved place in the Kingdom of Heaven.<sup>21</sup> This just shows that the Crusades were holy wars in the full sense and that many people were willing to wage war with a different people just so they could escape eternal damnation.

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<sup>19</sup> FRANCE, 1999, 205.

<sup>20</sup> FRANCE, 1999, 205-6.

<sup>21</sup> DENNIS, 2001, 31-2.



## **2.3 The Muslim world in the Middle East and the concept of *jihad* – relations with Western Europe (before and during the outbreak of the Crusades)**

### **2.3.1. The relations of the Muslim world in the Middle East with Western Europe before the Crusades**

We have already seen that Western Europe was predominately depending on the Frankish knights to lead the Crusades with the support of the Catholic Church. What was the situation with the Muslims of the Middle East? What needs to be said is that, in the 11<sup>th</sup> century, the Muslims, i.e. their territories were divided according to linguistics (predominately Arabs, Turks, Kurds and Persians) and religious beliefs (Sunni and various sects of Shi'ism). Their societies also included several minority groups (Jews, Druze, Yazidis, Zoroastrians, etc.).<sup>22</sup> But how did the Middle East become predominately Muslim, when you consider the large Christian presence (i.e. presence of the Eastern Christendom)? In short, the rise of Islam is tightly connected with the prophet Muhammad. In the year 626, he left the city of Mecca with his followers and they passed into Yathrib which became known as Medina. That passage is known as the *hijra* and it was the starting point of the first Islamic century. It was in Medina that Muhammad received most of the divine inspiration which he transcribed into the Qur'an. The reasons behind the passage were of a political and ideological nature: an escape from the polytheistic faith and intolerance.<sup>23</sup> After establishing a foothold in Medina, Muhammad launched a series of offensive, military campaigns against the neighbouring communities in Arabia, thus establishing a single, unified rule.<sup>24</sup> The city of Jerusalem was conquered in 638 by the Caliph Omar, though the Christians (and the Jews) could practice their faith if they agreed to pay a special tax, *jizya*. Alongside Jerusalem, the Arabs took the outlying countryside and the towns of Syria and Palestine.<sup>25</sup> In the following years, the Arabs took control of Egypt. Until the end of the 7<sup>th</sup> century, they took control over the Roman Africa and, consequently, Spain in 711.<sup>26</sup> An account is given by Guibert of Nogent who wrote a history

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<sup>22</sup> NICOLLE, 2001, 12.

<sup>23</sup> ROBINSON, 2011, 173.

<sup>24</sup> ROBINSON, 2011, 174.

<sup>25</sup> RUNCIMAN, 1951, 4.

<sup>26</sup> RUNCIMAN, 1951, 18-9.

of the First Crusade around 1100. He explains that, according to a pretty popular opinion which came to be during the aftermath of the First Crusade, there was a man, that he identifies as Mathomus, who led the people of the Holy Land to abandon the belief in the Holy Trinity, i.e. to discard the belief in the Son and the Holy Spirit. They were instructed to believe in the Father, the one creator, and to consider Jesus as a normal man. Moreover, Guibert sums up Mathomus' teachings by stating he made circumcision obligatory and by giving his followers permission to perform everything which could be considered a shameful act.<sup>27</sup> This man, Mathomus, is obviously the prophet Muhammad, the founder of Islam. This account shows a view of a contemporary writer of Western Europe during the early Crusades where he portrays the Islamic faith in an alienated and estranged way, clearly showing his disapproval of it.

Before the Crusades (from the 7<sup>th</sup> to the 10<sup>th</sup> century), the Muslims tried to take control over Byzantine territories and the Empire itself, but that ended with a relative stalemate (with the occasional conflict on a smaller scale, on both land and sea). During the early 11<sup>th</sup> century, the once powerful caliphate of the Abbasids in Baghdad fell apart and suffered a case of fragmentation. The Byzantines saw their chance and launched several counter-attacks on a larger scale. After they managed to destroy the Armenian military force, they ceased their offensive activities.<sup>28</sup> This was the time around the 1050s when the Byzantine Empire had a moment of stability, before it ushered into a time of further conflicts and instabilities. It could also be assumed that these conflicts, fought through several centuries, were a normal occurrence in the Byzantine-Muslim relations as they kept exchanging control over the territories, waging conflicts which never really escalated into larger conflicts or wars and keeping a relatively stable *status quo*.<sup>29</sup> Though, that relatively stable *status quo* was interrupted by the emergence of the Seljuk Turks. Their conquering of nearly the whole of Anatolia (present-day Turkey) alerted the Byzantines and their emperor Alexios I. This resulted in the warlike occurrence we know as the Crusades. This time, however, massive armies came to Byzantines' aid and not just in the form of sending mercenaries who were working under the emperor's authority.<sup>30</sup> The emergence of the Seljuks did not encompass the entire Middle East, however. Before the First Crusade, Egypt and some parts of the Palestinian and Syrian coast were

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<sup>27</sup> GUIBERT OF NOGENT, 1997, 29-30.

<sup>28</sup> NICOLLE, 2001, 12.

<sup>29</sup> Ibid.

<sup>30</sup> NICOLLE, 2001, 13.

under the control of the Fatimid Caliphate. They practised and nurtured relations with both Western Europe and the Byzantines.<sup>31</sup>

It is natural that, due to geographical aspects, the Byzantines had a thriving relation with the Muslim world (whether it was a constantly changing pace of conflicts and peaceful moments). But what was the relation with the Muslim world and Western Europe, the main force to oppose the Muslims during the Crusades? There is the account of Harun ibn Yahya who was taken captive somewhere off the coast of Palestine by the Byzantine navy. His account gives us an Arabic view of Europe. Thus, this dissertation will use Cobb's description of ibn Yahya's account. It is known that ibn Yahya was a Muslim and an Eastern Christian (a fact which probably helped his cause of being subsequently released from Byzantine custody). Once he was released, he did not return immediately to his native land, the "Abode of Islam" or *dar al-islam* (the lands he went to were known as the "Abode of War" or *dar al-barb*). Ibn Yahya was taken to Constantinople where he was also released. He did not stay too long in Constantinople. He continued his journeys westward. On his journey, he visited the Balkans, Thessalonica, Venice (which he called a village) and, finally, Rome. Although he never travelled further of Rome, he mentioned Christian people, i.e. the Franks who live beyond the Alps and said that further to the north is a land called Britannia. Britannia is described as the furthest of Roman territorial lands with no civilisation beyond it.<sup>32</sup> According to Borruso (who also gives a description of ibn Yahya's account), ibn Yahya gives an exaggerated view of Rome. His account mentions the king of Rome who is known as the pope, bronze bridges, a great church with 360 doors which also contains the golden tombs of St Peter and St Paul. He also mentions a custom where men trim their beards and shave the top of their head. Moreover, Borruso states that the journey took place around 880 or 890.<sup>33</sup>

From what can be gathered while reading his account, ibn Yahya portrayed Rome with a combination of facts (names of the places he visited, the existence of a pope, names of the apostles) and information which could be based on legends or myths (a church with over 300 doors). As his account is being placed in the end of the 9<sup>th</sup> century, one can only wonder if something did change until the First Crusade. The answer comes from the geographer al-Bakri who was the one who gave the account of ibn Yahya around 1070. He built upon ibn Yahya's interpretations, describing

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<sup>31</sup> Ibid.

<sup>32</sup> COBB, 2014, 9-10.

<sup>33</sup> BORRUSO, 1999, 137.

the city in more detail (mentioning the Tiber river by name). Cobb provides some excerpts from his accounts in his book. One such excerpt speaks of Christianity, while in comparison to Islam, thus an objective comparison is hardly expected. Seeing as al-Bakri was born in Spain (which was under the Moor occupation during that time), he had the opportunity to observe the neighbouring Christian population.<sup>34</sup> This gave him a great insight and provided him with a viable source for detailed descriptions. However, seeing as ibn Yahya's accounts were incorporated, and built upon in al-Bakri's work, it can be safely assumed that the 200-year old accounts of ibn Yahya were still relevant to Muslim writers who concerned themselves with Western Europe, thus showing us that there was still a circulation of information which was based on myths and legends. As Cobb puts it, these accounts are a good mixture of both accurate and inaccurate information and information based on fantasy, which was normal for the writers of the medieval era.<sup>35</sup>

This shows us that the Muslims had a sense of what is Western Europe. But what about its people and the relations with the general populace? One of the first interactions was a militaristic one. The Moor occupation of Spain is one example. More generally speaking, the relations before the Crusades were quite distant, except for the occasional Italian merchants and the Norman kingdom in southern Italy and Sicily.<sup>36</sup>

Some early Muslim writers, mostly explorers and travellers (though their numbers are very few), wrote about the Franks (main Western participants of the Crusades). Early Muslim observers describe the Franks as capable warriors, enemies of both Muslims and Slavs. One of such observers was Ibrahim ibn Ya'qub, a Muslim traveller who visited the Slavic East and the Franks. Alongside the descriptions of the scenery he passed by, he described the people as being dirty, i.e. they bathed only once or twice per year with cold water. Furthermore, they don't wash their clothes and they wear them until there are just rags, i.e. the clothes fall apart. Also, ibn Ya'qub was surprised with the custom of men shaving their beards (ibn Yahya wrote about the same custom).<sup>37</sup> It can be deduced that the Muslim worldview was more appreciative of the warriors rather than the general populace. Ibn Ya'qub supports this by stating that the Frankish lands are rich with silver ore mines and that the warriors are using swords which are sharper than any in India. Moreover, they had a

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<sup>34</sup> COBB, 2014, 10-12.

<sup>35</sup> COBB, 2014, 12.

<sup>36</sup> NICOLLE, 2001, 15-6.

<sup>37</sup> COBB, 2014, 18.

strong king with a considerable army and soldiers who are not afraid of death.<sup>38</sup> These views, and many more, changed with the emergence and the progression of the Crusades.

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<sup>38</sup> COBB, 2014, 19.

### 2.3.2 The concept of the *jihad* in the Muslim world of the Middle East before the Crusades

The previous section dealt with the concept of waging a holy war (or a crusade). The Muslims had their own concept of waging wars with religious aspects. It is known as *jihad*. How did the concept of *jihad* develop before the Crusades? Firstly, *jihad* is a constant idea in Islamic law.<sup>39</sup> This is one of the radical differences when comparing the *jihad* and a crusade. The Crusades, generally, ceased to exist in the Middle East after the fall of Acre in 1291. Though, they were still present in Spain (the *reconquista*) until the late 15<sup>th</sup> century. According to *The Encyclopaedia of Islam*, a *jihad* (or *djihad*) “etymologically signifies an effort directed towards a determined objective.”<sup>40</sup> Moreover, the idea of *jihad*, in law terminology and according to historical tradition and general established doctrines, represents a military action with an object (i.e. someone or something) for the spread of Islam and its defence, if the need should ever arise. This thinking comes from a principle where Islam is, basically, universal, i.e. it should be embraced by everyone (the whole universe, as stated) and the application of force is necessary to achieve that goal.<sup>41</sup> This just shows how much the Muslim concept of a “holy war” is different from the one followed by the Crusaders. The basis of a crusade was not to, specifically and primarily, expand Christianity, but to protect Christianity itself from the non-believers and infidels, including the holy places which hold a great importance in the Catholic faith. There were, however, instances where the rules of *jihad* were under attempt of being changed. One mentions the prohibition of waging war during the sacred months and the other one, proposed by Sufyan al-Thawri, claims that a *jihad* is only acceptable during a defensive war, though it could be recommended only as an offensive action.<sup>42</sup> For something, which is considered a law, it must be dully noted that until the 19<sup>th</sup> century, there was no authoritative, codified Islamic law. This means that there were many opinions (either held by the general populace or the minorities) on the concept of *jihad* and that several of them were of a normative character.<sup>43</sup>

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<sup>39</sup> MOTTAAHEDEH, AL-SAYYID, 2001, 23.

<sup>40</sup> BOSWORTH, 1997, 538.

<sup>41</sup> Ibid.

<sup>42</sup> Ibid.

<sup>43</sup> MOTTAAHEDEH, AL-SAYYID, 2001, 23.

The *jihad* became the standard type of the holy war against the Crusaders and, consequently, an answer to the crusade as a concept of waging wars. Cobb points out several similarities and differences between these two concepts. Some similarities are that it takes a figure of authority to launch them, i.e. popes and caliphs or imams and that both wars give a promise of salvation to those who die fighting in them. Though, there are huge differences. Unlike the Crusades and the Church, the *jihad* never offered the protection of one's family and property. Also, the Crusades were, sort of, centralized because they were motivated and initiated from the Church, a single institution. The *jihad* was less centralized, and it could be used as a more privatized goal.<sup>44</sup> Nevertheless, every side of the conflict had its valid reasons to fight the Crusades, whether it is out of a need to spread religious dominance over the world or the hope of salvation for one's sins. The concepts of a crusade and a *jihad* show how religion was able to influence the common masses into going to wars which would have consequences that are felt even today.

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<sup>44</sup> COBB, 2014, 29.

### 3. ARMS AND ARMOUR OF CRUSADERS FROM WESTERN EUROPE AND OF THE MUSLIM FORCES OF THE MIDDLE EAST

#### 3.1 Arms and armour of Crusader forces from Western Europe, i.e. the Franks

Before detailing the Westerners' (i.e. Crusaders from Western Europe) arms and armour while they were residing in the Crusader states, there needs to be a mention on the situation before the beginning and culmination of the First Crusade. What needs to be asked is what was the general equipment of a Western soldier before 1096? A possible answer lies in one of the most memorable events of the history of the British Isles: The Battle of Hastings which took place in 1066. The battle is portrayed on the Bayeux Tapestry for which DeVries and Smith give a detailed, thorough analysis. The Bayeux Tapestry measures approximately 68 meters in length and it portrays the armies of England and Normandy at that time.<sup>45</sup>



Picture 1: The Normans attack the town of Dol<sup>46</sup>

As it would be difficult to analyse the entire tapestry, there will be a focus on certain types of soldiers that appear on it. Out of three predominant types, the first one is seen in Picture 1 (shown above). Picture 1 shows Norman soldiers and they are portrayed while on horseback and wearing mail shirts and helmets. The shields look as to be shaped in a kite-form and the soldiers are armed with lances and swords (mostly sheathed). DeVries and Smith add that some soldiers are seen carrying some blunt types of weaponry, like clubs or maces.<sup>47</sup> There are instances where blunt-

<sup>45</sup> DEVRIES, SMITH, 2007, 122.

<sup>46</sup> <http://www.bayeuxtapestry.org.uk/Bayeux9.htm> (last accessed on: 4 September 2018)

<sup>47</sup> DEVRIES, SMITH, 2007, 122.



like weaponry can be seen on the Bayeux tapestry, like the scene 2 of the William Rides to War section (see Picture 3).



Picture 2: The Battle of Hastings – The death of Harold<sup>48</sup>



Picture 3: William on his horse<sup>49</sup>

Picture 2 shows one excerpt of the Battle of Hastings where we see the aforementioned horsemen type of warriors and the second type of warriors who also wear helmets and chain mail armour but are fighting on foot with swords and kite-formed shields. The third most commonly showed type of soldiers are the archers. They are portrayed on The Battle of Hastings section, Scene 1 (see Picture 4).

<sup>48</sup> <http://www.bayeuxtapestry.org.uk/Bayeux31.htm> (last accessed on: 4 September 2018)

<sup>49</sup> <http://www.bayeuxtapestry.org.uk/Bayeux24.htm> (last accessed on: 4 September 2018)



Picture 4: The Battle of Hastings – The start of the battle<sup>50</sup>

The archers are shown fighting while on foot and they are armed with bows and arrows. The noticeable difference when compared to the other units is that they do not seem to wear any armour. They are shown wearing headwear which is not a helmet, but more like a cap, and some sort of leather-made clothing.

DeVries and Smith go into more detail for each piece of weaponry and armour which were used by the three mentioned types of units. They begin with mentioning the mail shirts, which are also known as hauberks. As shown on the Tapestry, the hauberk covers the torso and arms which seems to extend to the elbow area.<sup>51</sup> On the Tapestry excerpts, when one looks at the arms of the horsemen, one sees a straight line which goes a bit above the elbow area. DeVries and Smith continue by saying that the mail was, basically, a long shirt which reached down to the area a bit above the knees and it has a split at the front and back to enable easier walking or riding a horse.<sup>52</sup> One example is the sixth scene of the Battle of Hastings, bottom of the Tapestry, where a soldier is stripping off the hauberk of a dead soldier and where the split is visible (see Picture 2).

The helmets are the type which is known under the name spangenhelm. It consists of several parts: a wide band which encircles the head, two narrow bands which are attached to the encircling band (one goes from the front to back, the other from side to side). The helmet is, then, filled with iron plates.<sup>53</sup> An example is the helmet in Picture 5 which is dated to the 6<sup>th</sup> or 7<sup>th</sup> century and is of

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<sup>50</sup> <http://www.bayeuxtapestry.org.uk/Bayeux26.htm> (last accessed on: 4 September 2018)

<sup>51</sup> DEVRIES, SMITH, 2007, 122.

<sup>52</sup> Ibid.

<sup>53</sup> Ibid.

either Germanic or Byzantine origin.<sup>54</sup> DeVries and Smith continue that it is, due to the varied colours used on the Tapestry, difficult to pinpoint the exact manufacturing materials of the helmets. Although the helmets pictured on the Tapestry are a type of spangenhelm, their tops are more pointed than rounded.<sup>55</sup>



Picture 5: Helmet (spangenhelm)<sup>56</sup>

There is also a certain piece of armour which can be found above the chainmail. It is known as the “mail helmet” or a coif. It was used, as mentioned by DeVries and Smith, to cover the head and protect the front and back of the neck.<sup>57</sup> There are certain examples on the Bayeux Tapestry which point to the usage of coifs (for one example, see Picture 6). Picture 6 shows that one of the horsemen (roughly in the middle of the Tapestry) has a different coloured area around the neck, almost as an additional piece of armour on the chainmail. Now, it is difficult to state if the coif was a fixed part of armour or simply an addition. There is a mention of coifs in the *Strategikon* of Byzantine emperor Maurice. There, it is stated that every soldier who is not armoured should take

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<sup>54</sup> <https://www.metmuseum.org/art/collection/search/24685> (last accessed on: 4 September 2018)

<sup>55</sup> DEVRIES, SMITH, 2007, 123.

<sup>56</sup> <https://www.metmuseum.org/art/collection/search/24685> (last accessed on: 4 September 2018)

<sup>57</sup> DEVRIES, SMITH, 2007, 123.



a coif from someone who is, to fool the enemy who is approaching them from a distance. Thus, making yourself look better armoured than you really are.<sup>58</sup> This would show that the coif was indeed a removable piece of armour and not, necessarily, fixed with the main part of the armour, i.e. the chainmail. Moreover, the Tapestry shows the transport of chainmail suits and they seem to lack the additional coif (unless it is leaning alongside the back of the hauberk like the modern hood-type of clothing; see Picture 7).



Picture 6: The Battle of Hastings – William raises a helmet after a fall from his horse<sup>59</sup>



Picture 7: Loading the ships<sup>60</sup>

To summarize the currently known armour of the Western soldiers, they had chainmail suits, coifs and helmets at their disposal. There is one area which does not seem covered by armour (as seen on the Tapestry): the soldiers' hands, lower part of the legs, i.e. beneath the knees, and the feet. That is one of the reasons why they had to rely on using the shield as a protection for their hands and, generally, their entire body. The soldiers, especially the ones on horseback, relied on kite-

<sup>58</sup> DENNIS, GAMILSCHEG, 1981, 338.

<sup>59</sup> <http://www.bayeuxtapestry.org.uk/Bayeux30.htm> (last accessed on: 4 September 2018)

<sup>60</sup> <http://www.bayeuxtapestry.org.uk/Bayeux17.htm> (last accessed on: 4 September 2018)

form shields. In Picture 3, we can clearly see that the shields are round on top and, as they extend down, pointed at the bottom. According to DeVries and Smith, most of the shields were made from wood, probably covered with leather layering and, possibly, had a binding of metal around the edges.<sup>61</sup> In Picture 4, we can see a bit of the backside of a shield which shows a strap through which went the soldier's left hand. Also, it can be observed that it was a sort of standard procedure to use your weapon with the right hand and the shield with the left. DeVries and Smith add more details by stating that there were three straps on a shield. The arm would go through two shorter straps. The third one would be used to sling the shield over the left shoulder (when not in combat).<sup>62</sup> Though it can be observed that the shields were primarily used by the cavalry, the infantry troops also used shields. This can be seen in Picture 8, where the English soldiers are being attacked from two sides and they have raised their shields in front of them, forming a so-called "shield wall".



Picture 8: The Battle of Hastings – English soldiers on foot<sup>63</sup>

After dealing with the armour of the soldiers, it is time to mention the offensive weapons that they were using. It is already mentioned that mounted soldiers used primarily swords and lances, with the occasional blunt weapon in the form of a mace or a club. Same can be said for the infantry units. When it comes to the sword, Picture 9 shows a more focused excerpt of a longsword from the Tapestry. The sword consists of a broad blade (DeVries and Smith provide the measurement: approximately 90 centimetres long<sup>64</sup>) with relatively paralleled edges and a round point (DeVries and Smith point it out as being blunted as well<sup>65</sup>) which was used, as seen on the excerpt, to slash

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<sup>61</sup> DEVRIES, SMITH, 2007, 123.

<sup>62</sup> Ibid.

<sup>63</sup> <http://www.bayeuxtapestry.org.uk/Bayeux27.htm> (last accessed on: 4 September 2018)

<sup>64</sup> DEVRIES, SMITH, 2007, 124.

<sup>65</sup> Ibid.



the incoming enemy and possibly inflict cutting wounds. On the other end, the hand is protected by a cross guard, which looks very simple in design and it is quite short in length. On Picture 2, we can see the pommel, which is a simple round form, as well as the scabbard which seems to be attached on the left side of the soldier's belt (it could, obviously, not be attached to the chainmail itself).



Picture 9: Excerpt of a mounted soldier with a sword from the Bayeux Tapestry<sup>66</sup>

The next weapon is the spear (with the lance being one type of spear) which we can see in more detail on the depictions of the cavalry which often used it. It is a wooden pole which has a sharp head made of iron or steel. DeVries and Smith estimate it as being around 2 to 2.3 meters long.<sup>67</sup> We can also find out how it was used, especially from Picture 8. Accordingly, it could have been used as a projectile. The holding stance of a spear which is used in jousting, where it seems to be nestled under the arm, appears to not be practiced during the Battle of Hastings.

The next category which is portrayed on the Tapestry is the usage of blunt weapons. Although, they do not seem to be very common as most of them look like simple clubs which are just thicker at one end. There is also the portrayal of the war axe or battle-axe. Picture 8 shows one type of the

<sup>66</sup> <http://www.english-heritage.org.uk/learn/1066-and-the-norman-conquest/the-weaponry-of-1066/> (last accessed on: 4 September 2018)

<sup>67</sup> DEVRIES, SMITH, 2007, 124.

axe, which is of a larger size and used with two hands. Also, according to DeVries and Smith, there were also one-handed war axes.<sup>68</sup>

The archers are the next type of unit to be present on the battlefield and they can be seen in bigger detail in Picture 10. Their weaponry consisted of a bow (about 1.5 meters long<sup>69</sup>) and arrows with barbed heads. The quiver is either attached to the archer's belts (on the right side) or it is slung over the shoulder. From the Tapestry, the archers positioned their bows in the torso area. Moreover, they pulled the bows' strings towards their chests. They do not seem to hold the bows higher with the strings pulled towards their faces (another way to fire an arrow; predominant in modern archery and medieval-themed movies/screen adaptations). Also, one of the archers is seen to carry four arrows in his left hand while firing at the enemy. The reason for this could be simple practicality. Archers would need to fire an arrow one by one with some time left in between for reloading, i.e. taking the next arrow from the quiver and preparing the shot. By holding several arrows in the hand, the archer could fire in quicker successions without wasting the time on reaching for the quiver which was on his back.



Picture 10: Excerpt depicting archers from the Bayeux Tapestry<sup>70</sup>

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<sup>68</sup> DEVRIES, SMITH, 2007, 125.

<sup>69</sup> Ibid.

<sup>70</sup> <http://www.english-heritage.org.uk/learn/1066-and-the-norman-conquest/the-weaponry-of-1066/> (last accessed on: 4 September 2018)

Regarding horses, as evidenced from the Tapestry, they seem to lack any sort of armour at all or any sort of additional protection. However, the horses are equipped with saddles, bridles, bits and reins (as seen in bigger detail in Picture 9). There are also the stirrups which can be seen on the horseman in Picture 9. Moreover, most of the horses, if not all, were male.<sup>71</sup>

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<sup>71</sup> DEVRIES, SMITH, 2007, 125.



### 3.1.1 Analysis of Crusader soldiers in the Outremer

After analysing the arms and armour of both infantry and cavalry before the Crusades, the assumption is that the military technology regarding arms and armour did not advance that much in the next 30 years. Furthermore, that would follow the notion that the equipment, which is seen on the Tapestry, was also used during the First Crusade and the occupation of Jerusalem (1096-1099-1102), presumably, even extending for a longer period time. This brings forth the next questions: what has changed during the Crusades? Were those changes drastic, large or few? This brings us to the description of the Crusader knight during the 12<sup>th</sup> century as he was stationed in the Outremer.

Basically, when it comes to arms and armour as a manufacturing industry, Outremer had virtually none of it. Thus, almost all the necessary equipment had to be imported from Western Europe, except while confiscating military goods through raiding and conquering.<sup>72</sup> This is a reason why the analysis of the Bayeux Tapestry was necessary. Basically, everything regarding the military equipment that was portrayed on it had to be transported to the Holy Land. The bulk of military equipment (arms and armour) was imported from Italy, with the city Genoa being the main export hub. Moreover, during the late 12<sup>th</sup> century, the Italian states were mostly sending hauberks to the Outremer and Byzantium.<sup>73</sup> Nicolle and Hook provide a description of a knight from southern France as he was getting geared up for combat. The author of that writing is Arnaut Guilham de Marsan, from the late 12<sup>th</sup> century. He wrote: “I have a good war-horse and I will tell you what kind; one that is swift running and suitable for arms. Take this one at once, and then your armour, lance and sword and hauberk with its surcoat. Let the horse be well tested and not an inferior one; and put on it a good saddle and bridle and a really good peytral [breast-strap securing the saddle] so that nothing is unsuitable, and have the saddle-cloth made with the same emblem as the saddle and the same colour as is painted on the shield, and the pennon on the lance in the same way. Have a pack-horse to carry your doubled hauberk and your weapons held high so that they appear more splendid, and always have the squires close by you.”<sup>74</sup>

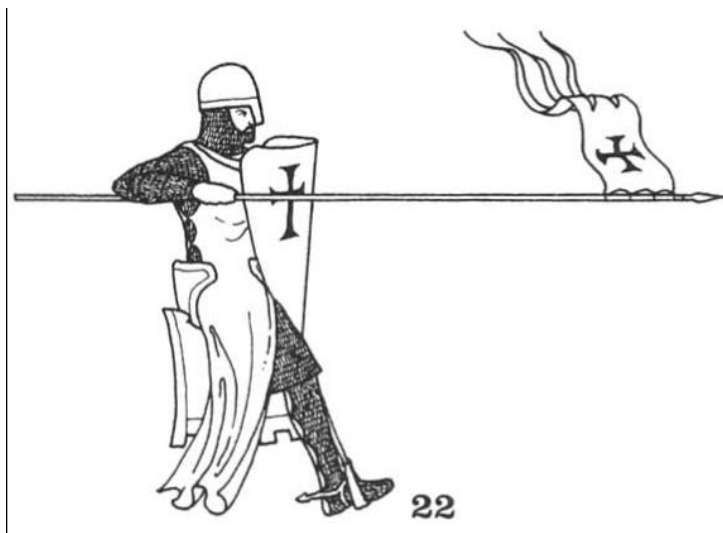
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<sup>72</sup> HOOK, NICOLLE, 1996, 30.

<sup>73</sup> Ibid.

<sup>74</sup> HOOK, NICOLLE, 1996, 31-2.

This writing shows us several things about the arms and armour of a Western knight. He describes his horse in the biggest detail. It was important that the horse was swift and fast, obviously for easier manoeuvring on the battlefield and, before that, reaching the field of battle. Moreover, the importance lies in its equipment as well: a good saddle and bridle. There is also the mention of a peytral. Though, due to the position of the legs, it would be difficult to see the usage of peytrals on the Bayeux Tapestry. Also, the knight should be followed by a pack-horse and several squires. When it comes to the knight's arms, we see the mention of the standard arsenal: lance, i.e. a long spear, sword and shield. When it comes to armour, there is mention of a hauberk, surcoat and a double hauberk. The surcoat (or surcote) is, according to *The Dictionary of Fashion History*, an outer garment of a variable style which was used from the middle ages until the 17<sup>th</sup> century.<sup>75</sup> Steele gives a simple explanation of the surcoat. It is a light garment which is worn over armour.<sup>76</sup> An example of a surcoat can be seen in Picture 11. The picture is, as described by Heath, taken from a map of the city of Jerusalem (c. 1170).<sup>77</sup>



Picture 11: Knight Templar – late 12<sup>th</sup> century<sup>78</sup>

The picture shows a Templar knight wearing a white surcoat. It has a hole for the head and it goes over the knight's armour. This would explain de Marsan's writings where it is said that the French knight should take his surcoat with his armour. The account also gives mention of a piece of armour known as a double hauberk. The presumption is that a double hauberk is basically an extra layered

<sup>75</sup> CUMMING, CUNNINGTON, CUNNINGTON, 2010, 199.

<sup>76</sup> STEELE, 2005, 62.

<sup>77</sup> HEATH, 1978, 76.

<sup>78</sup> Ibid.

hauberk, because a normal hauberk is made of combining chains into a mail, so possibly this one is double wrought for, presumably, providing more adequate protection. The French poem *Raoul de Cambrai* mentions the double hauberk, among the already mentioned types of armour. The poem mentions a battle between two knights, Guerri and Ernaut, where Ernaut was slashed by a steel sword which cut off a piece of his shield and one of the skirts of his double hauberk.<sup>79</sup> Later in the poem, Ernaut fought against the knight Raoul. During the fight, it is mentioned that the head-piece of Ernaut's double hauberk saved his head from being cut into half. Instead, it cut off a quarter of his shield and several hundred links of his double hauberk. For Raoul, it was mentioned he had a triple-wrought hauberk.<sup>80</sup> This account shows us that the double hauberk had to be wrought with more chain links than the standard hauberk. Though, Hook and Nicolle said that there was no explanation for the doubled hauberks that are found in various literary sources. Their suspicion is that the knight wore two hauberks, one over the other.<sup>81</sup>

Furthermore, Nicolle and Hook provide, in an illustrative format, the arms and armour (marked with smaller numbers from 1 to 15) of a Crusader knight from c. 1190 with appropriate text commentary (see Picture 12). The most relevant things will be mentioned. Numbers 2a, 2b and 2c show the helmet of the knight which seems to be a type of a spangenhelm with a protection for the nose (of a broad size). It also has leather lining and partial padding.<sup>82</sup> This padding was presumably for greater protection. Numbers 3a and 3b show a distinct mail coif with leather lacing and lining underneath it and a ventail. Number 4a shows a quilted *gambeson*. Number 5 shows a leather mitten. Under 7a and 7b we see quilted mail-lined chausses. Underneath the chausses, the knight wore plain woollen hose and cotton breeches. Underneath the feet of the chausses, the knight had leather soles. Number 14a shows a wooden shield, covered in leather, with a fluted iron boss.<sup>83</sup>

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<sup>79</sup> KAY, 1992, 161.

<sup>80</sup> KAY, 1992, 175.

<sup>81</sup> HOOK, NICOLLE, 47.

<sup>82</sup> HOOK, NICOLLE, 57.

<sup>83</sup> Ibid.



Picture 12: Arms and armour, c. AD 1190<sup>84</sup>

When doing some comparisons between this presentation of a knight in the late 12<sup>th</sup> century and the ones portrayed on the Bayeux Tapestry, we see certain differences and developments in military attire. These types of spangenhelm were covered with leather on the inside, while the earlier versions in the early Medieval times had an iron padding. The addition to the helmet is in the broad, nasal protector which was lacking in the earlier spangenhelm types during Late

<sup>84</sup> HOOK, NICOLLE, 1996, 33.

Antiquity. This goes well together with the mail coif which seems to be a part of the hauberk, presumably by quilting. The accessory known as a ventail, which was a component of the mail coif, seemed to provide additional protection. Moreover, as seen in Picture 12, the *gambeson* is worn beneath the hauberk. The *gambeson* was, basically, a type of soft-armour<sup>85</sup> which provided extra protection for the knight.

By looking at numbers 3a and 3b, it can be deduced that the ventail is made of chain mail as well, but the inner side, which is covering the lower face area, seems to be covered in a layer of, presumably, leather (it would be more durable than a piece of cloth). While looking at the completely outfitted soldier (centre of Picture 12) we can see that, when it comes to the head, nearly his entire head is covered in armour, except the area around the eyes. Another addition here is the mitten. It covers the hand in a way where the entire palm is covered with two separate sheaths. One sheath covers the thumb, while the other one covers the rest of the hand. This division into two sheaths allowed the knight to grab and use objects while wearing the mitten, especially weapons such as a sword or a lance. This fixed the issue of unprotected hands. Same goes for the legs with the usage of quilted chausses, which protected the legs. From observing the complete illustration of the knight, the chausses were worn beneath the hauberk. Underneath the chausses, as it was mentioned, knights wore breeches and hoses. According to *The dictionary of fashion history*, breeches (or *braies* or *breches*) were an undergarment from the mid-12<sup>th</sup> century and they were pulled upwards by a *braie-girdle* (a string which emerged at intervals from the waist area; it can also be seen under number 7a). Its legs were wide, loose and short.<sup>86</sup> Moreover, a hose was a type of leg-gear in the form of stockings which were brought together at the fork and extend over the buttocks, basically forming tights.<sup>87</sup> The Dictionary also provides a definition of chausses. They were basically the Anglo-French term for medieval hoses, but it was abandoned with the development of English as a language of nobility and knighthood during the 15<sup>th</sup> century. The later explanation of the term is reserved for armour contexts.<sup>88</sup> This might cause some confusion in defining the difference between hoses and chausses in this context. The answer may be seen in the picture, under number 7a. The chausses are basically mail armour, which is the uppermost layer with the soles underneath it. It was also mentioned being stripped and quilted together, which

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<sup>85</sup> HOOK, NICOLLE, 1996, 47.

<sup>86</sup> CUMMING, CUNNINGTON, CUNNINGTON, 2010, 29.

<sup>87</sup> CUMMING, CUNNINGTON, CUNNINGTON, 2010, 106.

<sup>88</sup> CUMMING, CUNNINGTON, CUNNINGTON, 2010, 45.

would explain the stripped dual colour design. The cotton breeches were underneath them and pulled upwards with the *braie-girdle*. The most bottom piece of garment is, then, the woollen hose (the white undergarment around the waist area). This would tell us that the knight had also mailed protection for his legs, except the feet which were covered by leathered soles.

The design of the shield remained the kite-form type. Though, one thing that was not visible on the shields on the Bayeux Tapestry is the iron boss. By looking at the illustration under number 14a, the shield boss is placed somewhere in the shield's centre as a round, protruding piece of metal. This would be an advantage when using the shield in an offensive manner and not just as an object of defence, especially if the knight would be in the range to slam the shield into an enemy or use it in a punching manner.

While mentioning Frankish knights who were, subsequently, the Crusader knights in the Outremer, Heath provided the descriptions of other Frankish units who were not necessarily knights. He mentions Frankish mounted sergeants (see Picture 13). They were armoured, on horseback and held a lesser status. They often went by different names: *militēs gregarii*, *militēs plebei*, *levis armaturae*, etc.<sup>89</sup> The illustration in Picture 13 (which Heath attributes to one of Matthew Paris' drawings from the mid-13<sup>th</sup> century and as being a typical portrayal of a Frankish mounted sergeant<sup>90</sup>) shows the sergeant carrying a sword and a lance which was common for the knights and other mounted soldiers of the time. Moreover, his armour is a bit different from the one worn by knights, as it looks outdated and lighter (when compared to the portrayal in Picture 12).

There were, also, the Frankish infantrymen who were armed with a ranging set of weapons: from only carrying a spear or a bow to being armed with spears and bows or, even, crossbows. The usage of the crossbow is mentioned by Anna Comnena.<sup>91</sup> She also gave a detailed description of the crossbow:

“This cross-bow is a bow of the barbarians quite unknown to the Greeks; and it is not stretched by the right hand pulling the string whilst the left pulls the bow in a contrary direction, but he who stretches this warlike and very far-shooting weapon must lie, one might say, almost on his back

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<sup>89</sup> HEATH, 1978, 71.

<sup>90</sup> Ibid.

<sup>91</sup> Anna Comnena, *The Alexiad*, X.VIII (<https://sourcebooks.fordham.edu/basis/AnnaComnena-Alexiad10.asp> ; last accessed on: 4 September 2018)

and apply both feet strongly against the semi-circle of the bow and with his two hands pull the string with all his might in the contrary direction. In the middle of the string is a socket, a cylindrical kind of cup fitted to the string itself, and about as long as an arrow of considerable size which reaches from the string to the very middle of the bow; and through this arrows of many sorts are shot out. The arrows used with this bow are very short in length, but very thick, fitted in front with a very heavy iron tip. And in discharging them the string shoots them out with enormous violence and force, and whatever these darts chance to hit, they do not fall back, but they pierce through a shield, then cut through a heavy iron corselet and wing their way through and out at the other side. So violent and ineluctable is the discharge of arrows of this kind. Such an arrow has been known to pierce a bronze statue, and if it hits the wall of a very large town, the point of the arrow either protrudes on the inner side or it buries itself in the middle of the wall and is lost. Such then is this monster of a crossbow, and verily a devilish invention. And the wretched man who is struck by it, dies without feeling anything, not even feeling the blow, however strong it be.”<sup>92</sup>

By mentioning that the crossbow is an unknown weapon to the Greeks, Anna Comnena might have meant that the Byzantines were not familiar with the weapon whatsoever or the exposure to it was minimal, if not negligible. After an explanation of its workings, she makes over-the-top statements about its effectiveness, even calling it a monster, just to adequately describe its monstrous strength and power. One of its positive sides is that it does not take a staggering amount of training (as it was the case with English longbowmen), though, its main flaw is that it takes a while to reload because of the triggering mechanism which needs to be put back into place, along with putting the smaller arrows (also known as quarrels<sup>93</sup>) into the socket and placing them against the string.

Anna Comnena was not the only one to write about the Franks, though. Beha ed-Din wrote about Frankish infantry troops during one of the battles (near Caesarea) which precluded the Battle at Arsuf in 1191. He wrote: “(...) every foot-soldier wore a vest of thick felt and a coat of mail so dense and strong that our arrows made no impression on them. (...) I saw some (of the Frank foot-soldiers) with from one to ten arrows sticking in them, and still advancing at their ordinary pace without leaving the ranks.”<sup>94</sup> The felt which Beha el-Din mentions was also called the gambison.<sup>95</sup>

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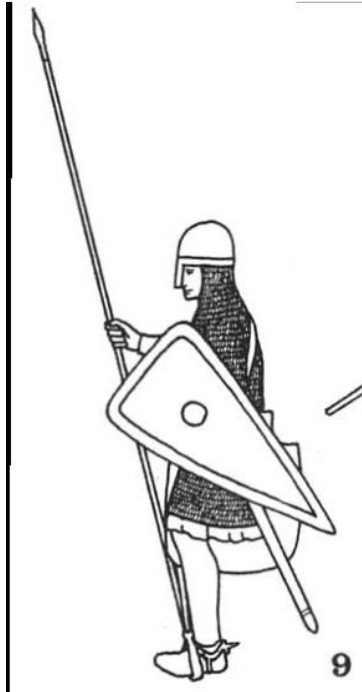
<sup>92</sup> Ibid.

<sup>93</sup> DEVRIES, SMITH, 2007, 135.

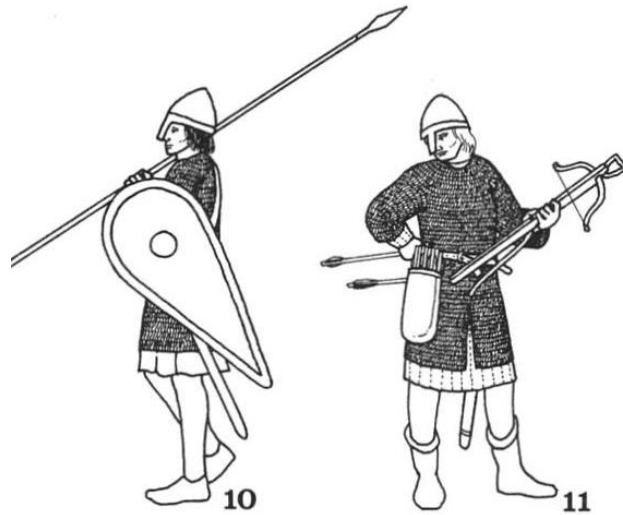
<sup>94</sup> BEHA ED-DIN, 1897, 282.

<sup>95</sup> BEHA ED-DIN, 1897, 282n.

The gambison or gambeson is also portrayed in Picture 12, number 4a as a quilted gambeson, which is, as it was already mentioned, a type of soft-armor. Moreover, it was used in combination with mail armor (see Picture 14).



Picture 13: Frankish mounted sergeant<sup>96</sup>



Picture 14: Frankish infantrymen<sup>97</sup>

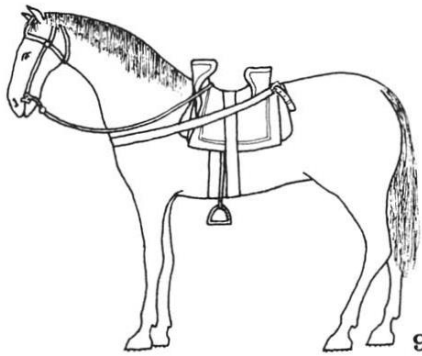
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<sup>96</sup> HEATH, 1978, 70.

<sup>97</sup> Ibid.



When it comes to horses, they have not been armoured, according to DeVries and Smith, until the later part of the 12<sup>th</sup> century.<sup>98</sup> Heath shows that by presenting an illustration of a Frankish horse which has no armour at all (Picture 15). They were, however, very important to the Frankish knights who would charge into battle, but without armour they were in constant danger of getting injured or dying on the field of battle.<sup>99</sup>



Picture 15: Frankish horse<sup>100</sup>

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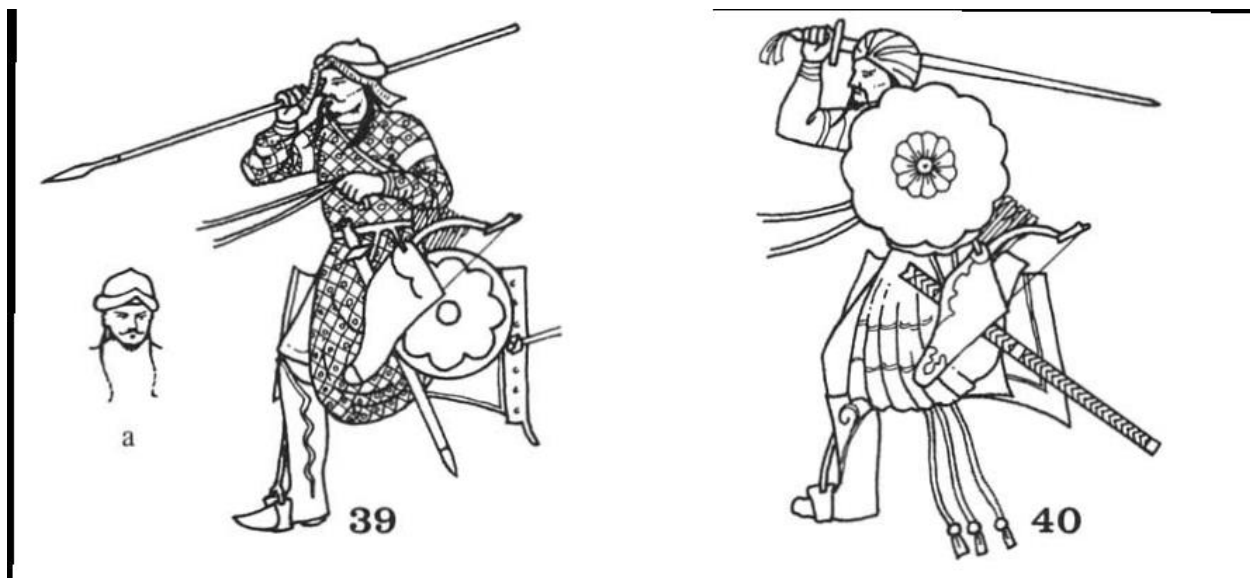
<sup>98</sup> DEVRIES, SMITH, 2007, 128-9.

<sup>99</sup> HEATH, 1978, 109.

<sup>100</sup> HEATH, 1978, 108.

### 3.2 Arms and armour of Muslim forces in the Middle East and Egypt: Fatimids, Ayyubids and Seljuk Turks

When it comes to describing the arms and armour of Muslim forces, we must keep one thing in mind: the Muslim world was a heavily divided one, either by linguistics or religious groups. Also, these divided territories featured several minority groups. The presence of the Seljuks in Anatolia can be tracked to the 11<sup>th</sup> century when they and their successors took over the former Byzantine regions. That is why those Seljuks are also known as Seljuks of Rūm (rūm means “land of the Romans”). However, the first Muslims who broke the Byzantine defence lines in Anatolia were not even Turks, but completely different groups, i.e. Kurds and various Iranian groups.<sup>101</sup> This shows a certain complication which is exemplified in Heath’s description of Turkish cavalymen. He mentions that Christian chroniclers (in a general sense, he does not name any specific chroniclers) used the term “Turk” to describe not just the Turks themselves, but all the soldiers in their armies, like Seljuks, Turcomans and Syrians (see Picture 16 which shows two Seljuks and Picture 17 which shows two Syrians).<sup>102</sup>

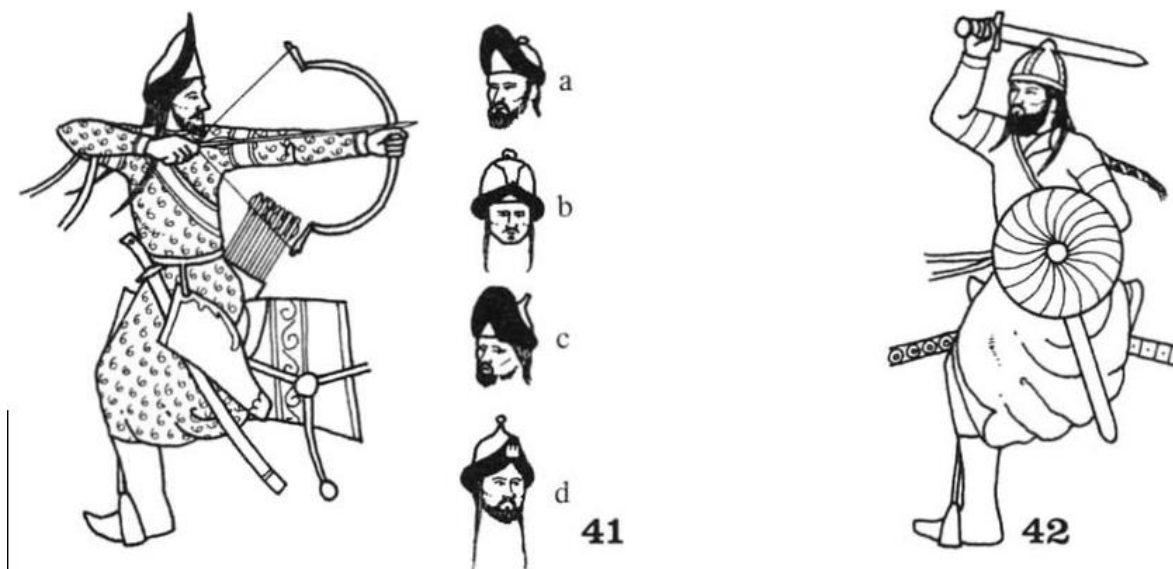


Picture 16: Turkish cavalymen – Seljuks (c. 11<sup>th</sup> century)<sup>103</sup>

<sup>101</sup> NICOLLE, 1999, 207.

<sup>102</sup> HEATH, 1978, 83.

<sup>103</sup> HEATH, 1978, 84.



Picture 17: Turkish cavalymen – Syrians<sup>104</sup>

The four cavalymen wear a long topcoat where, frontally, the right overlaps the left flap (which is also known as the Muqallab). Around the arms they wear bands (Tiraz bands). They also wear loose, tall boots and baggy trousers. The Seljuk to the left in Picture 16 seems to wear a cap-like headwear, while the turban is wrapped around it.<sup>105</sup> According to *Medieval Islamic Civilization: An Encyclopedia*, Tiraz bands are “royal fabrics with embroidered bands containing written inscriptions.”<sup>106</sup> The turban on the Seljuk to the right in Picture 16 was becoming more common piece of headwear during the late 11<sup>th</sup> century. The Syrian on the left in Picture 17 wears a hat which is trimmed with fur and it is of a triangular shape. It appears in illustrations during the late 12<sup>th</sup> century and it was mostly worn by higher ranking military officials like emirs and chieftains (to show the rank).<sup>107</sup> When it comes to arms, Heath gives an excerpt from the *Itinerarium Regis Ricardi* regarding the Syrians in Saladin’s army during the Battle at Arsuf (1191): “the Turks are... almost weaponless, carrying only a bow, a mace furnished with sharp teeth, a sword, a lance of reed with an iron tip, and a lightly hung knife.”<sup>108</sup> Their arrows were light so that sometimes they

<sup>104</sup> HEATH, 1978, 85.

<sup>105</sup> HEATH, 1978, 83.

<sup>106</sup> MERI, 2006, 160.

<sup>107</sup> HEATH, 1978, 83.

<sup>108</sup> HEATH, 1978, 84.

did not even pierce the armour and not even leave a wound.<sup>109</sup> By looking at Picture 17 we can see that the quiver for the arrows was large enough to hold, certainly, a couple dozen arrows at once. Also, while looking at their shields and comparing them to the ones used by the Franks (or even the Normans and Englishmen on the Bayeux Tapestry), it can be safely proclaimed that their shields were of smaller size, round and that some were decorated with a flower-like motif. Moreover, even though the illustrations lack colours, it can be seen in Pictures 16 and 17 that the cavalymen to the left wear bright and patterned clothes.

The example of how both Seljuks and Syrians were considered Turkish soldiers just shows the heterogeneity of the Muslim armies. Though, as it was mentioned before, the Turcomans were the ones who played a huge role in breaking Byzantine defences and bringing the Seljuks into Anatolia. After the Byzantine loss at the Battle at Manzikert (1071), the Seljuks formed a state in Rūm. A huge part of its army was bolstered with Turcoman nomadic tribal warriors and they continued to play a large role until the early 13<sup>th</sup> century.<sup>110</sup> The Turcoman was, as mentioned, an important part of the Seljuk army, but he was also serving as an auxiliary unit in Fatimid, Ayyubid, Mamluk and Ottoman armies. When it came to fighting battles, they would rely mostly on light mounted archers.<sup>111</sup> Picture 18 shows a 14<sup>th</sup> century drawing of a Turcoman which, in turn, was inspired by the Ustad Mehmed Siyah Qalem (illustrations dated to the 13<sup>th</sup> century).<sup>112</sup> He is wearing a topcoat (just as the Turkish cavalymen mentioned earlier) which is missing the Muqallab, but it has an alternative way of up-right fastening which was not worn by Turks.<sup>113</sup> His basic equipment, from what can be seen, consisted of quiver with arrows (due to its size, it could have also served as a case for the bow), a bow (they usually attached the bow to the left side of the body), a sabre and several light javelins (those were basically spears as seen on Picture 18 and they were used as a ranged weapon, i.e. for throwing and not thrusting or stabbing).<sup>114</sup>

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<sup>109</sup> Ibid.

<sup>110</sup> NICOLLE, 1999, 208.

<sup>111</sup> HEATH, 1978, 90.

<sup>112</sup> Ibid.

<sup>113</sup> Ibid.

<sup>114</sup> Ibid.



Picture 18: Turcoman tribesman<sup>115</sup>

Although the Turcoman soldier was playing a vital role in bolstering the numbers of the Seljuk armies, it does not mean that the Seljuks did not have their own units. Seeing as the Turcomans were light horsemen, there were also heavy cavalrymen. Picture 19 shows a Seljuk heavy cavalryman from the late 12<sup>th</sup>/early 13<sup>th</sup> century. He wore a mail hood, Persian-style helmet with a neck guard and a Djawshan (lamellar corselet of any length, which was in this illustration shown at waist-length).<sup>116</sup> Usamah mentions the Djawshan (or, how he refers to it, a gilden byrnie). He mentions it as being worn by one Muslim during a battle near Qinnasrin. According to his account, there was a Frankish knight, known as ibn-al-Daqq, who used his lance and pierced the Muslim soldier, known as ibn-Bishr, through the chest.<sup>117</sup>

Moreover, his equipment consisted of a lance, shield, sword, bow and arrows.<sup>118</sup> Alongside the cavalry, there are also the Seljuk infantrymen. Though the Seljuks preferred the usage of cavalry in waging battles (as seen by the Turcomans), they also had a sizeable force of infantrymen. Their usage was noted by Niketas Choniates, who gave an account on a battle near Myriokephalon (1176) between the Turks and the Byzantines. According to his account, the infantry played a vital role by using their phalanx formation to block the exits of a mountain pass, thus giving the archers enough space and time to deal a severe blow to the Byzantine forces.<sup>119</sup> Picture 20 shows a Seljuk

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<sup>115</sup> HEATH, 1978, 89.

<sup>116</sup> HEATH, 1978, 88.

<sup>117</sup> USAMAH, 1929, 25.

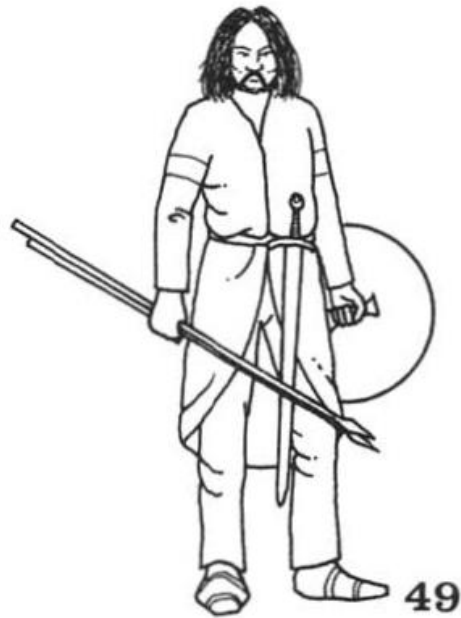
<sup>118</sup> HEATH, 1978, 89.

<sup>119</sup> CHONIATES, 1984, 101-2.

infantryman. What immediately stands out is that he is virtually unarmoured, holding two lances and a small rounded shield, while carrying a sword as well. In Choniatēs' account, as it was mentioned earlier. they also used bows.



Picture 19: Seljuk heavy cavalryman<sup>120</sup>



Picture 20: Seljuk infantryman<sup>121</sup>

The Seljuks were not the only Muslim force, however. The ones which had the most contact and were the dominant force to oppose the Crusaders during the Second and Third Crusades were the Fatimids and, later, the Ayyubids of the Caliphate of Egypt. From the mid-10<sup>th</sup> century until 1171, Fatimids were the ruling Shi'ite Caliphs. That changed then, when the Ayyubids (who were Sunni) replaced them as Caliphs. The first of them was Saladin. In 1250, they were brought down by a Mamluk military coup.<sup>122</sup> During the time of the Fatimid rule, their armies were primarily featuring infantry units with a few light cavalry units. Thus, infantry units were archers as well, though they also used javelins. Though, there were, as in most Islamic forces, other units which fought with the Fatimid army, e.g. elite mercenary forces, black slaves from Africa, Turkish *ghulam* (slave-

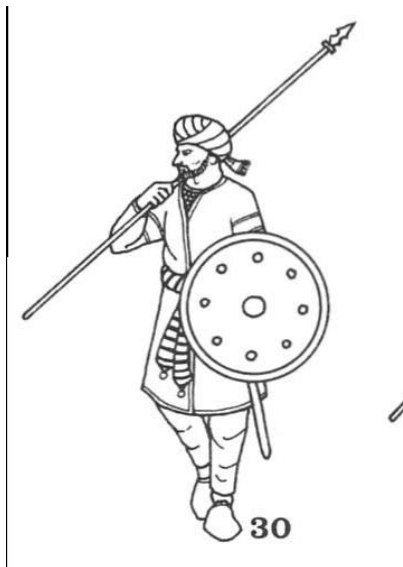
<sup>120</sup> HEATH, 1978, 88.

<sup>121</sup> Ibid.

<sup>122</sup> NICOLLE, 1999, 119.

soldiers) horsemen, i.e. cavalymen, etc.<sup>123</sup> Picture 21 depicts a Fatimid infantryman around 1100. As it is shown, he is unarmoured (they generally were, according to Heath<sup>124</sup>), armed with a sword, spear (does not look like the throwable javelin due to its length) and a round shield (known as Turs).<sup>125</sup> The shield in Picture 21 seems to have its edges additionally reinforced and, alongside the middle iron boss, have multiple bosses. Bows were, presumably, wielded only by archers. The archers were primarily soldiers from other areas, like Armenia and Sudan.<sup>126</sup>

Picture 22 depicts a Fatimid cavalryman around 1150. He is not unarmoured but dressed in a mail coat, i.e. a corselet which reaches just below the knees and it reaches the soldier's wrists. Just like the infantryman, he is wearing a turban (unless they tried to use it to conceal the helmet as noted by Heath<sup>127</sup>) and a shield, though his shield is a kite-type shield and not a standard round shield. Alongside the sword, he would also carry a lance while fighting on horseback, though without a bow, according to Usamah.<sup>128</sup>



Picture 21: Fatimid infantryman c.1100<sup>129</sup>



Picture 22: Fatimid cavalryman c.1150<sup>130</sup>

<sup>123</sup> NICOLLE, 1999, 120.

<sup>124</sup> HEATH, 1978, 79.

<sup>125</sup> Ibid.

<sup>126</sup> Ibid.

<sup>127</sup> HEATH, 1978, 80.

<sup>128</sup> USAMAH, 1929, 69-70, 76-80, 132.

<sup>129</sup> Ibid.

<sup>130</sup> Ibid.

Picture 23 shows an Ayyubid heavy cavalryman. While looking at the illustration, which is based on the soldiers that fought during battles at Arsuf, we can see that he is wearing a sleeveless scale corselet which is put on top of chainmail armour with a coif. While looking at the bottom of the corselet, there is a hint of wearing quilted cuisses. This illustration, however, is based on the drawings of Matthew Paris (monk and chronicler from England) and it is quite debatable if the Ayyubids were indeed dressed like this on a larger scale.<sup>131</sup> That is evident because the illustration depicts him holding a kite shield, but the shields next to him look like the standard, round shield used by other Muslim forces.



Picture 23: Ayyubid heavy cavalryman<sup>132</sup>

Seeing as how the Muslim forces mentioned here put a focus on cavalry, it is good to see the equipment of horses. Picture 24 shows a Muslim horse. Firstly, the noticeable thing which differentiates it from a Frankish horse is the collar (Mishadda<sup>133</sup>) at the neck which holds an amount of horsehair. Their horses also seemed to have a piece of cloth (Zunnari<sup>134</sup>) which covered,

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<sup>131</sup> HEATH, 1978, 87.

<sup>132</sup> Ibid.

<sup>133</sup> HEATH, 1978, 110.

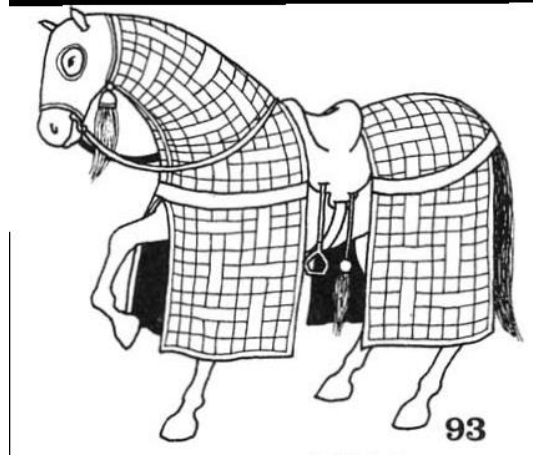
<sup>134</sup> Ibid.



from the rear end of the saddle, the back of the horse. Picture 25 shows an armoured Muslim horse from around 1225. This is for comparison with the Frankish horses which had no armour. Horse armour was used even before the Crusades, while the Franks began using it near the end of the 12<sup>th</sup> century.<sup>135</sup>



Picture 24: Muslim horse<sup>136</sup>



Picture 25: Armoured Muslim horse, c. 1225<sup>137</sup>

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<sup>135</sup> Ibid.

<sup>136</sup> HEATH, 1978, 109.

<sup>137</sup> Ibid.

### 3.3 Mutual influence of arms and armour – minimal or significant?

After an analysis and description of the arms and armour on both sides of the conflict, there is the presumption that each side adapted to the military equipment of the other or that one piece of equipment left a huge impact. Nicolle states that the Crusaders adopted both ideas and some of the equipment (which is the focus here) from their Muslim enemies, though it could be looked upon as a response to the threat they experienced while in the Holy Land and Outremer. There are two pieces of equipment, according to Nicolle, which could be attributed to have origins in the Middle East, like the *jazerant* and lined or padded hauberks.<sup>138</sup> The hauberk was mentioned before in the analysis and we have already seen on the Bayeux Tapestry that hauberks were used decades, by the Normans, before the Crusades. However, several Muslim forces wore a shortened hauberk which could have had an impact on the length of the hauberk used by the Crusaders. A *jazerant* (or a *jesseraund*) was a light-armoured coat, made of padded cloth and mail or scale armour.<sup>139</sup> This shows us that, although, the armour did not change rapidly or significantly during the period of the First Crusade (1096) until the Fourth Crusade (1204), subtle adaptations occurred, while in contact (i.e. commencing battles) with the enemy forces. The padding is a clear example. Additional padding on armour provides additional protection for the arrows of the archers, who were a predominant factor in the Muslim armies. We saw that in the comments of Beha ed-Din where he was, obviously, shocked of seeing Crusader soldiers with a dozen arrows stuck in them and still being able to walk and fight. Though, the real change came, in the late 13<sup>th</sup> century, with the emergence of plate armour, but that is out of the scope of this thesis.

When it comes to weapons, a clear “transfer” is the crossbow. The crossbow has already been mentioned by Anna Comnena with a focus on its power on the battlefield. Thus, Muslims began to use them themselves. The crossbow of the Saracens (known as *Qaws Farangi*) turned out to be more powerful because it used a composite bow. Franks, later, took the composite bow from the Saracens and the makers of such crossbows became highly sought after in Europe.<sup>140</sup> Heath mentions an altogether common practice during war time which takes place after the battle is over. Each army, especially the victorious one, goes on to collect its fallen brethren and salvage anything

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<sup>138</sup> NICOLLE, 1999, 274.

<sup>139</sup> CHAMBERS, OWEN-CROCKER, SYLVESTER, 2014, 379.

<sup>140</sup> HEATH, 1978, 86.

they can from their enemies, as in military equipment (shields, lances, swords, helmets, corselets).<sup>141</sup> The soldiers could have simply began using the arms and armour of their enemies and, presumably, modifying them to their own military style. This would go both sides with the Crusaders and the addition of padding. This, however, is a logical course of influence where the opposing side would pick up the fallen armaments and use them for themselves. The sources that were used here do not show a large impact of influence during the set period, except the occasional crossbow (which stood out because of its large power and thus, obvious, effectiveness on the battlefield) and the slight improvements on one's armour to partially lessen the impact of the other's range weapon.

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<sup>141</sup> HEATH, 1978, 87.

## **4. BATTLE TACTICS OF CAVALRY AND INFANTRY UNITS OF THE CRUSADERS AND THE MUSLIM FORCES**

### **4.1 Tactics of Crusader infantry and cavalry units**

Before the explanation of the tactics themselves, we need to remind ourselves on how Western Europe generally viewed Muslims. Basically, Western Europeans, i.e. future Crusaders viewed the Muslims as heretics, infidels, sometimes even as barbarians. Moreover, they thought of them as a big danger to the most holy places of the entire Christendom. The Crusader armies marched into the Holy Land to liberate (in their views and the view of the Church in Rome) and not to conquer. As Nicolle puts it, “most Crusades were launched in response to Muslim successes and remained essentially reactive rather than proactive.”<sup>142</sup> Moreover, the conquering of Jerusalem and the early fights of the First Crusade were battles which were focused on the offensive and they were not fought out of defensive reasons or circumstances. That is logical because the first notion of the Crusader forces was to free the city of Jerusalem and the Holy Sepulchre, so the pilgrims could go on their sacred pilgrimages with a sense of relative safety (the usual harassment and bandit roads on the roads could never be truly eradicated and they were always a possibility). That also continued in the Second Crusade because the areas around Jerusalem were still held under enemy forces and the only tactical solution was to conquer these territories, which resulted in the formation of Crusader states.

Moreover, they were fighting against an enemy which was, basically, defending itself from a foreign and unknown force, set to expel them from their land and property. The Western warfare was, usually, small-scaled and, mostly, on a local level, mostly based on sieges of cities and castles (mostly for territorial gains which relates to the feudal system of Western Europe) and local skirmishes on the fields. Such campaigns were, especially in Italy, supported by the relative short distance between the various cities and the easily traversable terrain. Basically, the battles between two enemy forces came to be with the sieges of castles and the reinforcements which were sent to break the occupation and relief the forces inside.<sup>143</sup> Either way, battles were fought either for gaining territories (explains the occupations of cities and castle sieges) or deposing a ruler, i.e.

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<sup>142</sup> NICOLLE, 2011, 57.

<sup>143</sup> FRANCE, 1999, 150-3.

overthrowing him. Verbruggen gives an account of a battle, which is mentioned in the *Gesta consulum Andegavensium*, the besieging of Tours (1044) by count Geoffrey Martel of Anjou. His seneschal, Lisoius, gave him an advice regarding a coming force to relieve the fortress:

“Leave the city which you are besieging. Summon your men from the fortifications, and you will be stronger to defend yourself. I shall hasten to you when you want to fight a battle. It is certainly better for us to fight together than to fight separately and get beaten. Battles are short, but the victor's prize is enormous. Sieges waste time, and the town is rarely taken. Battles overcome nations and fortified towns, and an enemy beaten in battle vanishes like smoke. Once the battle is over, and the enemy beaten, there is a great domain waiting for you around Tours.”<sup>144</sup>

The account above shows us that the army commanders of Western Europe had to sometimes meet the enemy in open battle, if the need arises to do so, though here, it was for the material gain of land and, consequently, wealth. Generally, the goals were not so much different than the ones in the Holy Land. They were there, primarily, to free the occupied Christian lands and depose their Muslim rulers and, consequently, to acquire the wealth that lay at the new frontier, whether it is land, material possessions or influence.

Moreover, the Crusaders had a certain beginning advantage when fighting the Muslim forces of the Middle East. They had the help of the Byzantines who were in a longer conflict with the Muslims. Also, they had many manuals and textbooks on the science of military warfare and military ideas. The two prominent sources were the *Strategikon* (written by Emperor Maurice) and the *Taktika* (written by Emperor Leo the Wise).<sup>145</sup> These books extensively “discussed the organization and administration of the army, its chain of command, its subdivision into units, the tactical handling of those units in the field, and the strategical considerations to be observed by its leaders.”<sup>146</sup> Alongside the development of military theory, the Byzantines observed and analysed the people with whom they had contact, studying their weaknesses, which led to the development of tactics which the Byzantines would use to defeat their enemies.<sup>147</sup> There were examples when the Crusaders used the help of Byzantines in battle. For example, Anna Comnena mentions her

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<sup>144</sup> VERBRUGGEN, 1997, 280.

<sup>145</sup> SMAIL, 1995, 121.

<sup>146</sup> SMAIL, 1995, 122.

<sup>147</sup> Ibid.

father, Alexios I Komnenos, who helped the Crusader leaders by giving them advice. In one instance, he gave an advice to Count Balduinus of the Frankish delegation:

"If you did not find a fight when you sought for it then, now the time has come which will give you your fill of fighting. But I strongly advise you not to place yourself in the rear nor in the front of your line, (...) for I have had a long experience of the Turkish method of fighting." It was not to this man only that he gave this advice, but to all the others he foretold the accidents likely to happen on their journey, and counselled them never to pursue the barbarians very far when God granted them a victory over them, for fear of being killed by falling into ambushes."<sup>148</sup>

Furthermore, according to Anna Comnena, Alexios I had another meeting with the Frankish delegation and gave them more advice, like instructions on the Turks' methods of warfare, manners of disposing the army, arranging military ranks. He also advised them again not to pursue the Turks when they begin to flee the battle.<sup>149</sup> Seeing as the Crusaders passed through Byzantine lands and Constantinople during the First Crusade, it was a logical approach to stop at the capital and try, even if unintentionally, to receive some valuable information on the enemy. This also brings forth the question of the extent of Byzantine help to the Franks. Smail, who extensively discussed the subject, deduces that the differences between the military doctrines of the Western Europe and Byzantium are different enough so that the Franks could not incorporate the Byzantine military doctrines and theories. For the similarities between certain military tactics which seem to be copied from the Byzantines, there is a lack of evidence on the manner of how the Latins acquired them, whether by learning them or just simply copying them. Moreover, the Franks in Syria had no traditional or written military theories, unlike the Byzantines.<sup>150</sup>

This brings us to the general tactic of Crusader forces when fighting a battle. The army units had to be cohesive, because they were far slower than the armies of the Middle East which were much faster and manoeuvrable.<sup>151</sup> There was a reason for this as the soldiers were marching to battle in squadron formations.<sup>152</sup> While in open country (where the major, big battles were usually fought), the squadron was formed as a box with the infantry surrounding the cavalry. While not in open

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<sup>148</sup> Anna Comnena, *The Alexiad*, X.VIII (<https://sourcebooks.fordham.edu/basis/AnnaComnena-Alexiad10.asp> ; last accessed on: 4 September 2018)

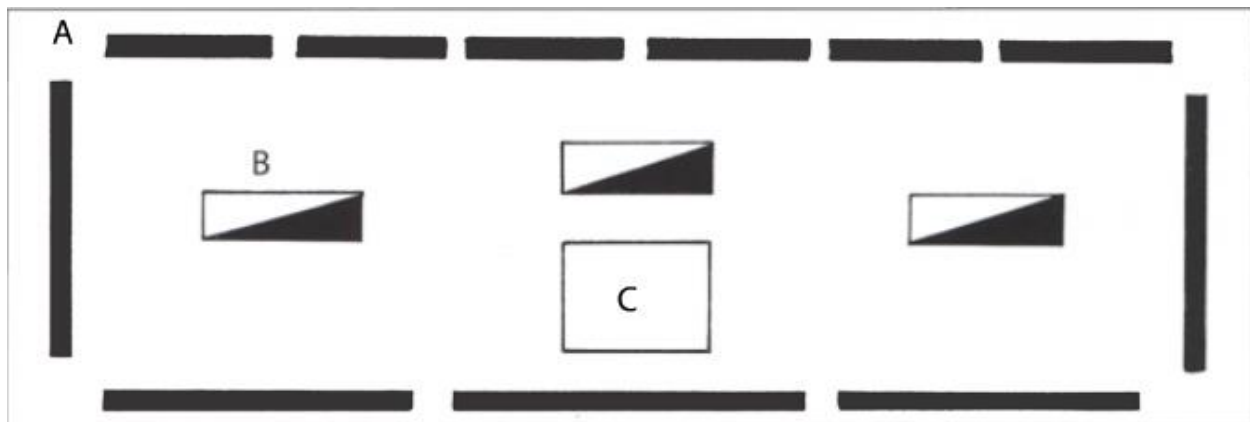
<sup>149</sup> Ibid.

<sup>150</sup> SMAIL, 1995, 122-3.

<sup>151</sup> NICOLLE, 2011, 58.

<sup>152</sup> SMAIL, 1995, 156.

areas, they would assemble into a column-like formation with guards in the nearby hills, providing protection for the flanks.<sup>153</sup> When there was a need for the knights to charge, the infantry (who were mostly a defensive group of spearmen and bowmen) would create a space in their box-like formation for the cavalry to charge in between them. This sort of a tactic was prevalent during the late 12<sup>th</sup> and 13<sup>th</sup> centuries (see Picture 26).<sup>154</sup>



Picture 26: Schematic archetypal 13<sup>th</sup> century Crusader battle array<sup>155</sup>

From these explanations, it can be deduced that the cavalymen were the “heavy-hitters” during the battle, which explains their heavy armour and equipment. The role of the infantry (marked with “A”) is to protect the cavalry (marked with “B”) and the baggage (marked with “C”) from being overwhelmed by enemy forces. Beha-ed Din mentions this formation during one of the battles against the Franks who left Caesarea. He mentions that when Saladin marched to meet them, they were already in battle formation: the infantry was drawn up and in front of the cavalry, forming a protective wall, protected with a thick *gambisons* and a dense coat of mail which managed to reduce the power of Saladin’s archers. The Crusader crossbowmen, in retaliation, fired back at the Muslim attackers, wounding many of the Muslim horses and their riders. The infantry was divided into two divisions: one was with the cavalry and the second was behind the lines, advancing along the shore. When the first division got tired, the second one took the place so the exhausted one could get away from the fight and recuperate. The cavalry (divided into three divisions) stayed in

<sup>153</sup> NICOLLE, 2011, 58.

<sup>154</sup> NICHOLSON, NICOLLE, 2005, 43; NICOLLE, 2011, 60.

<sup>155</sup> NICOLLE, 2011, 58.

the same place for the entire infantry-focused fight, abandoning their positions only when they got the signal to charge. In the centre of the cavalry divisions, stood the standard. The Muslim archers tried to annoy the Crusader cavalry to break its formation and charge, but to no avail. The cavalry was described as patient and of being highly self-controlling. Furthermore, they never made long marches because of their infantry (i.e. they tried to go the same pace), especially the ones who had the duty of carrying the tents and baggage because there was a shortage of animals to do the carrying.<sup>156</sup>

From this account we can gather that the cavalry charge was one of the most important strategies. Also, when it comes to Frankish horses, they had to be imported to the Middle East, so every horse was important, especially for the knights. This would explain the constant attempt of Muslim archers to annoy the Crusader riders. If they would be forced to charge and leave the protective wall of ranged infantry, they would either be shot or, even worse, their horses would be killed, rendering the Crusader army incapable of using the cavalry charge to their advantage. This is where the infantry could drop in because they could offer ranged protection to the knights which failed their charge and had to return to their original position.<sup>157</sup> Moreover, the Crusader soldiers had to be highly disciplined to withstand the constant barrage of the enemy, so they could use their cavalry force to their highest potential. Thus, they saw through the Muslim tactic of attacking the cavalry and their horses.

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<sup>156</sup> BEHA ED-DIN, 1897, 282-3.

<sup>157</sup> NICOLLE, 2011, 60.



## 4.2 Tactics of Muslim cavalry and infantry units

From the previous section, which dealt a lot with the arms and armour of the Muslim forces in the Middle East, we know that the emphasis of the Seljuk Turks was on ranged cavalry. Also, the Seljuk Turks had units which came from other nations and places. Anna Comnena gives an account on these statements:

“(...) the Turkish battle-order did not agree at all with that of other nations, for with them "shield did not rest upon shield, and helmet upon helmet and man upon man as Homer says, but the Turks' right and left wing, and centre were quite disconnected and the phalanxes stood as if severed from each other. Consequently, if you attacked the right or left wing, the centre would swoop down upon you and all the rest of the army posted behind it, and like whirlwinds throw the opposing body into confusion. Now for their weapons of war: they do not use spears much, as the Franks do, but surround the enemy completely and shoot at him with arrows, and they make this defence from a distance. When he pursues, he captures his man with the bow; when he is pursued he conquers with his darts; he throws a dart and the flying dart hits either the horse or its rider, and as it has been dispatched with very great force it passes right through the body; so skilled are they in the use of the bow.”<sup>158</sup>

This falls in line with the previous section on Crusader tactics and the connection between Crusader cavalry and Muslim archers. The focus was, generally, on the effectiveness of the archers and their tactic of eliminating enemy cavalry units by either killing the rider or the horse. The Franks, thus, due to the lack of horses, placed their cavalry behind a protective line of infantry. Moreover, their units, while on horseback, were quicker and more manoeuvrable than the Frankish cavalry.<sup>159</sup> That higher mobility gave them certain advantages over the Franks: they were quick to disperse and re-align their soldiers into formation, thus rendering the cavalry charge of the Franks difficult to reach its full potential and destructive power, they used the so-called feigned retreat (mostly used as a bait for an ambush or wear down the Frankish soldiers), they used this strategy to attack the enemy from the rear and the sides and they always tried to break the enemy's column

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<sup>158</sup> Anna Comnena, *The Alexiad*, XV.III (<https://sourcebooks.fordham.edu/basis/AnnaComnena-Alexiad15.asp> ; last accessed on: 4 September 2018)

<sup>159</sup> SMAIL, 1995, 77.

formation.<sup>160</sup> This just shows the Turkish understanding on the importance the Franks put on their horses because if they have no horses, they would not be able to charge. However, the soldiers would later switch their bows with their swords and lances and move to close-quarters combat to finish the job, but only if the battle was moving into their favour.<sup>161</sup> The forces of Saladin, i.e. the Ayyubid caliphate of Egypt, later implemented these tactics as we have seen in Beha ed-Din's account, but what was the situation before Saladin? They were more resembling the Franks, for an instance. That is seen in Usamah's account when he mistook, albeit from a distance, a fellow Muslim for a Frank.<sup>162</sup> Moreover, according to multiple instances in his account, the Arab soldier preferred close quarters combat with a sword and lance.<sup>163</sup>

Saladin decided to change these military practices. He implemented the use of ranged cavalry, while at the same time, adopting the Turkish methods which have been described above when it comes to the matter of being faster than the ordinary Frankish cavalryman. He instructed the horsemen to use their spears as a primary weapon while aiming them at the enemy's arms, legs and body. When the lances broke, they would have switched to their swords. Furthermore, when it comes to infantry, archers were trained on how to fight in open battles. He also practiced the need to use the surrounding environment to his full advantage.<sup>164</sup> These tactics were seen and observed in Beha ed-Din's account just as the strategy of harassing the moving enemy force just to disorient them and break their formation. One clear example of using the environment to your advantage was seen during the Battle at Hattin in 1187 which resulted in a disastrous defeat for the Crusader army. Saladin blocked the area to the springs with the goal of causing distress among the Crusader ranks.<sup>165</sup> This showed how the Muslims used their own wild card in defeating the enemy: the knowledge of your land. Though, later, the Crusaders adapted to Muslim tactics by protecting their cavalry with infantry troops and not falling into their trap of forcing the horses on an early charge. Basically, the Muslim forces were forced to fight the infantry until the moment where both sides entered a static mode which would allow the Crusader cavalry to charge.

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<sup>160</sup> SMAIL, 1995, 78-80.

<sup>161</sup> SMAIL, 1995, 82-3.

<sup>162</sup> USAMAH, 1929, 173.

<sup>163</sup> USAMAH, 1929, 69-70, 76-80, 132.

<sup>164</sup> NICHOLSON, NICOLLE, 2005, 30-1.

<sup>165</sup> *De Expugatione Terrae Sanctae per Saladinum: The Battle of Hattin, 1187* (<https://sourcebooks.fordham.edu/source/1187hattin.asp> ; last accessed on: 4 September 2018)

## 5. CONCLUSION

This dissertation was written with a passion towards the subject of medieval warfare and to find out how the Crusader and Muslim cavalry and infantry looked like, with what did they fight and how did they behave on the battlefield. What was the general situation with the arms and armour of both forces? First, they did not change much in the time between the First and the Fourth Crusade, not minding the slight alterations which were developed due to the need or the necessity for additional protection. Even the Muslim forces, which were heavily divided just as their lands, kept to their own similar, but somewhat unique style of military equipment. A period which lasted for just over a century is not a big time for significant changes in the arms and armour development. Why would they when you can easily scavenge the enemy's equipment after defeating them in battle?

However, the biggest development can be seen in the tactics of both forces. From the first contact, each force fought as they were used to fight with local enemies. The adaptations that came with the fought battles show the resourcefulness and cleverness of the military commanders at the time. It is logical, really, because if you do not adapt on the battlefield, your army will fall apart and you will lose the battle, maybe even the war. The Muslims saw the potential and the danger of a powerful knight cavalry charge; thus, they trained their archers to take down the horses. They also knew the scarcity of horses among the Franks. The Franks figured that tactic out and decided to march in squadron, box-like formations with the main goal to protect the cavalry. Also, they realized how fast the Muslims can escape, so they put their archers in front to pin them down, so the cavalry can charge at a more static enemy formation. These examples just show the fluidity of military tactics and how they can easily change and adapt and how one strategy immediately influences the other. To conclude, there is more potential research that can be built upon this. More cavalry and infantry units of foreign forces in the Muslim armies, the arms and armour of the knightly orders, the training of the soldiers, the connection with the rest of the Crusades until 1291 and doing a single, large analysis and comparison which occurred in nearly 200 years of warfare, etc. The concept of warfare is not isolated and it needs to be researched to give a broader picture of society and development through the ages.

## BIBLIOGRAPHY

### 1. Primary sources

Beha ed-Din, *Life of Saladin*, London, Hanover Square, 1897: Palestine Pilgrims' Text Society

Choniates, N., *O City of Byzantium, Annals of Niketas Choniates*, Detroit, Wayne State University Press, 1984.

Anna Comnena, *The Alexiad* (<https://sourcebooks.fordham.edu/basis/AnnaComnena-Alexiad.asp> ; last accessed on: 5 September 2018)

*De Expugatione Terrae Sanctae per Saladinum: The Battle at Hattin, 1187* (<https://sourcebooks.fordham.edu/source/1187hattin.asp> ; last accessed on: 4 September 2018)

Dennis, G. T. (ed.), Gamillscheg, E. (tr.), *Das Strategikon des Maurikios*, Wien, Österreichische Akademie der Wissenschaften, 1981.

Glaber, R., *The Five Books of Histories*, Oxford, Clarendon Press, 1989.

Guibert of Nogent, Levine R. (tr.), *The Deeds of God Through the Franks: A Translation of Guilbert de Nogent's Gesta Dei per Francos*, The Boydell Press, 1997.

In Praise of the New Knighthood - Liber ad milites Templi: De laude novae militiae: Chapter 1 – A word of exhortation for the knights of the Temple (<http://www.templiers.org/eloge-eng.php> ; last accessed on 5 September 2018)

Kay, S. (ed.), *Raoul de Cambrai*, Oxford, Clarendon Press, 1992.

Krey, A. C. (ed.), *The First Crusade: The Accounts of Eye-Witnesses and Participants*, Princeton, Princeton University Press, 1921.

Moncrief, C. K. (tr.), *The Song of Roland: Webster's German Thesaurus Edition*, ICON Classics, 2005.

Usamah ibn-Munqidh, *An Arab-Syrian Gentleman and Warrior in the Period of the Crusades: Memoirs of Usāmah ibn-Munqidh (kitāb al-i'tibār)*, New York, Columbia University Press, 1929.

## 2. Secondary sources

Andrea Borruso, Some Arab-Muslim Perceptions of Religion and Medieval Culture in Sicily. In: Waardenburg, J. (ed.), *Muslim Perceptions of Other Religions: A Historical Survey*, New York & Oxford, Oxford University Press, 1999, 136-142.

Bosworth, C.E. (ed.), *The Encyclopaedia of Islam, Volume II: C – G*, Leiden, E. J. Brill, 1991.

Mark C. Chambers, Gale R. Owen-Crocker, Louise M. Sylvester, Glossary. In: Chambers, M. C., Owen-Crocker, G. R., Sylvester, L. M. (eds.), *Medieval Dress and Textiles in Britain: A Multilingual Sourcebook*, The Boydell Press, 2014, 357-99.

Cobb, P. M., *The Race for Paradise: An Islamic History of the Crusades*, New York, Oxford University Press, 2014.

Cumming, V., Cunnington, C. W., Cunnington, P. E. (eds.), *The Dictionary of Fashion History*, New York & Oxford, Berg, 2010.

George T. Dennis, Defenders of the Christian People: Holy War in Byzantium. In: Laiou, A. E., Mottahedeh, R. P. (eds.), *The Crusades from the Perspective of Byzantium and the Muslim World*, Washington, D. C., Dumbarton Oak Research Library and Collection, 2001, 31-9.

DeVries, K., Smith, R. D., *Medieval Weapons: An Illustrated History of Their Impact*, ABC-Clio, Inc., 2007.

France, J., *Victory in the East: A Military history of the First Crusade*, Cambridge University Press, 1994.

France, J., *Western Warfare in the Age of the Crusades*, London, UCL Press, 1999.

Heath, I., *Armies and Enemies of the Crusades 1096 – 1291: Organisation, tactics, dress and weapons. 96 illustrations*, Wargames Research Group Publication, 1978.

Hook, C., Nicolle, D., *Crusader Knight 1187 – 1344 AD*, Osprey Publishing Ltd., 1999.

Meri, J. W. (ed.), *Medieval Islamic Civilization: An Encyclopedia, Volume I: A – K, Index*, Routledge, 2006.

Roy Parviz Mottahedeh, Ridwan al-Sayyid, The Idea of the Jihad in Islam before the Crusades. In: Laiou, A. E., Mottahedeh, R. P. (eds.), *The Crusades from the Perspective of Byzantium and the Muslim World*, Washington D. C., Dumbarton Oak Research Library and Collection, 2001, 23-9.

Nicholson, H., Nicolle, D., *God's Warriors: Crusaders, Saracens and the Battle for Jerusalem*, Osprey Publishing Ltd., 2005.

Nicolle, D., *Arms and Armour of the Crusading Era, 1050 – 1350: Islam, Eastern Europe and Asia*, London, Greenhill Books, 1999.

Nicolle, D., *Arms and Armour of the Crusading Era, 1050 – 1350: Western Europe and the Crusader States*, London, Greenhill Books, 1999.

Nicolle, D., *European Medieval Tactics (1): The Fall and Rise of Cavalry 450 – 1260*, Osprey Publishing, Ltd., 2011.

Jonathan Riley-Smith, The Crusading Movement and Historians. In: Riley-Smith, J. (ed.), *The Oxford History of the Crusades*, New York, Oxford University Press, 1999, 1-14.

Chase F. Robinson, The rise of Islam, 600 – 705. In: Robinson, C. F. (ed.), *The New Cambridge History of Islam: Volume 1: The Formation of the Islamic World, Sixth to Eleventh Centuries*, Cambridge University Press, 2011.

Runciman, S., *A History of the Crusades: Volume 1: The First Crusade and the Foundation of the Kingdom of Jerusalem*, Cambridge University Press, 1951.

Smail, R. C., *Crusading Warfare, 1097 – 1193*, New York, Cambridge University Press, 1995.

Steele, S., *A History of Fashion and Costume: The Medieval World*, Facts On File, Inc., 2005.

Verbruggen, J. F., *The Art of Warfare in Western Europe During the Middle Ages: From the Eighth Century to 1340*, Boydell Press, 1997.

### 3. Web pages

1066 and the Norman Conquest – The weaponry of 1066 (<http://www.english-heritage.org.uk/learn/1066-and-the-norman-conquest/the-weaponry-of-1066/> ; last accessed on: 4 September 2018)

Brothers in Arms – Scene 2 (<http://www.bayeuxtapestry.org.uk/Bayeux9.htm> ; last accessed on: 4 September 2018)

Helmet (Spangenhelm) (<https://www.metmuseum.org/art/collection/search/24685> ; last accessed on: 4 September 2018)

Planning the Invasion – Scene 3 (<http://www.bayeuxtapestry.org.uk/Bayeux17.htm> ; last accessed on: 4 September 2018)

The Battle of Hastings – Scene 1 (<http://www.bayeuxtapestry.org.uk/Bayeux26.htm> ; last accessed on: 4 September 2018)

The Battle of Hastings – Scene 2 (<http://www.bayeuxtapestry.org.uk/Bayeux27.htm> ; last accessed on: 4 September 2018)

The Battle of Hastings – Scene 5 (<http://www.bayeuxtapestry.org.uk/Bayeux30.htm> ; last accessed on: 4 September 2018)

William Rides to War – Scene 2 (<http://www.bayeuxtapestry.org.uk/Bayeux24.htm> ; last accessed on: 4 September 2018)