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Sword against armor: a analysis from the miniatures of the chronicles of Froissart

Vinicius de Souza e Cruz[1]

Abstract: The current article: "Sword Against Armor: A Analysis from the Miniatures from the Chronicles of Froissart", has the objective to analyze the use of swords for the capacity of penetration/drilling of plate armor, from the observable representations of the miniatures of Loyset Liédet about the Chronicles of Froissart. For that, will be use four steps that lead a conclusion of the subject: the quality of the differents plate armor; cost and record of the manufacturing of armor; quality and shape of the swords; the visual veracity described of the medieval miniatures, above all, of the Loyset. Will be used a bibliographic research, that consists in the data collect of articles, books and magazines which will appear in the quotes and references.

Keywords: Swords; Armor; Miniatures

Resumo: O presente artigo: "Espada Contra Armadura: Uma Análise a Partir das Miniaturas das Crônicas de Froissart", tem como objetivo analisar o uso de espadas para a capacidade de penetração/perfuração de armaduras de placas, a partir das representações observáveis das miniaturas de Loyset Liédet sobre as Crônicas de Froissart. Para tanto, serão utilizados quatro passos que levam a uma conclusão do assunto: a qualidade das diferentes armaduras de placas; custo e registro da fabricação das armaduras; qualidade e formato das espadas; a veracidade visual descrita das miniaturas medievais, sobretudo, das Loyset. Será utilizada uma pesquisa bibliográfica, que consiste na coleta de dados de artigos, livros e revistas que constarão nas citações e referências.

Palavras-chave: Espadas; Armaduras; Miniaturas

[1] Centro Universitário Católico Ítalo Brasileiro. Pesquisador dedicado à história militar medieval, com ênfase na Guerra dos Cem Anos.
E-mail: viniciussouzabjj@gmail.com
Lattes: http://lattes.cnpq.br/3366640449171363
Orcid: https://orcid.org/0009-0001-7681-2887

1 The quality of armors

Within the scope of the manufacturing process, construction, and skill of specialized armorers in the creation of plate armors, we encounter a scarcity of primary sources that could allow for an assertive analysis regarding the effectiveness and quality of the various types of armors (ROCCA, 2017). Thus, investigating these essential aspects becomes a challenge, highlighting the need for careful and multidisciplinary approaches to fill existing gaps.

Given this scenario, it is imperative to initiate the study of medieval armors with some fundamental questions: 1. When was the manufacturing process carried out? 2. Where was it performed? These inquiries establish a crucial basis for understanding the historical context, regional influences, and possible variations in manufacturing practices over time and in different locations. Thus, by addressing the mentioned questions, we can shed light on crucial aspects of the development of plate armors, allowing for a more comprehensive and informed analysis of the techniques, styles, and nuances that characterize this important component of medieval military history.

According to Rocca (2017), the production of armors in England, Spain, Portugal, and France in the 14th and 15th centuries was likely nonexistent due to a lack of competent blacksmiths. He asserts this due to the scarcity of primary evidence and recovered pieces. The absence of tangible records in these countries suggests that the expertise required to forge such equipment was absent in these locations during this period. In this context, it is observed that kings and nobles throughout Western Europe ordered more refined armors from Italy and Germany. This highlights the recognized reputation and skill of these regions in producing high-quality armors, making them centers of excellence that supplied the demand for more sophisticated pieces.

"Milan was the international leader in armor sales from the early 13th to the 16th century. Not only armors, but weapons were also exported (...)" (ROCCA, 2017, p. 28, our translation).[1]

"In Germany, the imperial cities of Nuremberg and Augsburg rivaled and eventually surpassed Milan in the international market during the 16th century." (ROCCA, 2017, p. 29, our translation).[2]

To facilitate the study, a temporal and geographical cut will be made focused on the analysis of armors and swords used by France and England during the Hundred Years' War[3]. This period, which marked the apogee of military tactics, martial quality, cavalry deployment, and documentation through primary works, offers a rich scenario for

understanding the military practices of the time. In addition to its significant military importance, the Hundred Years' War also stands out for being a period documented in detail in the Chronicles of Jean Froissart[4]. These chronicles provide detailed narratives of the battles, contributing to a thorough understanding of the historical context and the strategies and combat methods employed during this conflict. It is worth noting that, in addition to the chronicles, many pieces of armor and swords have managed to survive the rigors of these historical confrontations.

It is important to remember that it was not just one armor that protected the knight. Over the clothing, a mail shirt was placed, covering from the shoulder to the knee. Its weight did not exceed twelve kilograms, which were distributed over the knights' shoulders. Such was the efficiency demonstrated by the mail shirt alone, protecting against low-intensity cuts and thrusts. However, it was almost completely ineffective against lance thrusts, swords, and missiles fired by longbows and crossbows. For the flexibility and quality of the mail to be lasting, it was necessary to lubricate the metal rings periodically (FLORI, 2005). Over the mail shirt finally came the metal plates. The metal was laced across the chest and shoulder, covering the body completely. The weight, in turn, is compensated by its better distribution across the body, not just on the shoulders. Finally, as a last protective (and also identifying) layer, a colored coat was placed over the metal.

Different types of helmets could be found alongside plate armors, the two most used by cavalry were the closed cylindrical helmet, with holes only for the eyes and ventilation, and for the wealthiest, the helmet being a visor helmet. In the infantry, the most common was the iconic nasal helmet. The shoulders are protected by rounded pauldrons, the gauntlets are entirely metallic. The upper thighs and pelvis are protected by a skirt-like design called a tasset, made of segmented plates, which protected this part of the body and still allowed for an impressive range of leg movement (GILL, 2016). Contrary to popular belief, plate armors were not extremely restrictive or excessively heavy, weighing on average up to twenty kilograms. The development and improvements in plate metallurgy made it unnecessary to use shields for dismounted knights by the end of the medieval period, allowing them to use two-handed swords (DOUGHERTY, 2008).

Image 1 - The Battle of Chiset (1470 - 1475)

Loyset Liédet (1420-1479), available at: https://www.meisterdrucke.pt/impressoes-artisticas-sofisticadas/Loyset-Liedet/1190570/A-Batalha-de-Chiset-em-21-de-mar%C3%A7o-de-1373%2C-ca-1470-1475..html.

The Chronicles of Jean Froissart have an extremely important value as a primary source. Although Froissart was not a historian but a chronicler, he did not hesitate to describe the battles in great detail. Similarly, the illuminations depicting these battles are rich in minutiae. It is possible to observe foot soldiers delivering fatal blows to fallen men, especially in areas unprotected by metal, such as the neck. Moreover, at the center of the illumination, there is evident an attempt to thrust a lance into the enemy's back, who does not hesitate to deliver the blow, even with his enemy being protected by plate armor.

But owning a complete plate armor did not mean that the person would be immune to death in combat, as can be seen in the aforementioned illumination. Even full suits of armor had openings for cuts and thrusts behind the knee, under the armpits, in the groin, and at the neck, and it is important to note that knights and soldiers were trained to hit these regions accurately. As for the parts protected by metal, cheaper and lower-quality armors could receive lance thrusts and longsword stabs. The belly, back, and legs were areas with a lower concentration of carbon per steel, making them less rigid and more susceptible to piercing (CLEMENTS, 2011). Froissart (2000) reports, on at least two occasions, the impact of swords in piercing armors during duels, focusing particularly on the thigh region. However, he also mentions incidents where thrusts were deflected by

defenses, resulting in battles that often continued on the ground, often with the use of daggers in unprotected areas, notably the neck. It is important to emphasize that the quality of a plate armor was directly related to its price and the reputation of its maker.

Image 2 - Plate Armor

Metropolitan Museum of Art, available at: https://www.metmuseum.org/art/collection/search/23205, accessed in: January 5, 2024.

2 The manufacture of plate armors

When we reflect on the Middle Ages, the image that often comes to mind is that of a knight elegantly dressed in gleaming plate armor. This legendary attire has become inseparable from the figure of the knight, inspiring countless narratives over the centuries. However, it is crucial to understand that this imposing armor was not widely used for most of the time when knights exerted their dominance on the battlefields.

Knowing that manufacturing was heterogeneous, the cost of these armor pieces would not be different. The cheaper they were, the less beautiful and resistant they would be. Even so, it is easy to assert that only a small part of an army would be able to afford

even the worst metal plates. Since the 8th century, according to Ripuarian law, a horse was worth six times more than an ox; a hauberk[5], is worth the same price; a helmet, half that value (BLOCH, 2022). Centuries later, militarism was much more restricted by profession; there were no more domestic warriors. Now war was restricted to professional armies, making warrior aristocracy far superior when compared to previous centuries.

There is a conception that may arise when observing armors on display in renowned institutions like the Metropolitan Museum of Art. These pieces often represent examples of high-quality equipment, contrasting with the simpler weapons and armors used by common men and low nobility, which were often relegated to storage or lost over time. It is true that unless looted on a battlefield or won in a tournament, acquiring armor would have been an expensive matter. However, as there certainly are differences in armor quality, there would have also been differences in price. Low to mid-quality armors, affordable to bourgeoisie, mercenaries, and low nobility, could be bought ready-made in markets, trade fairs, and urban shops. On the other hand, there were also high-quality, custom-made products from imperial or royal court workshops, and famous German and Italian armorers. Armors made by some of these famous masters represented the highest art of the armorer's craft and could cost as much as a king's ransom (BREIDING, 2004). The price of a mail shirt, for example, varied from two to three warhorses, proving its use by only an elite. The cost of a complete armor in the 12th century was estimated at thirty oxen, and over time it became even more expensive. Thus, on a battlefield, it was possible to have different types of armors, of different qualities and appearances.

Regarding the manufacturing time of a complete armor, it is impossible to provide a definitive answer since practically no evidence that would offer a complete view has survived over time. It is important to note that a complete armor could be composed of elements produced by several specialized armorers, and the pieces could often be kept in semi-finished state in stock, awaiting a future specific order (BREIDING, 2004).

It is relevant to highlight that the quality of an armor was not determined solely by its cost but also by the skill of the maker. The authorship of many armorers and production centers can be recognized through some surviving pieces recovered from battlefields, in which manufacturer's marks and inscriptions of the city of origin can be identified. However, it is regrettable that, despite documentary evidence indicating the existence of various armor manufacturing centers, no specimen has survived over time for precise identification (ROCCA, 2017).

It is not surprising that the production of such magnificent armors demanded extraordinary skills and resources. Throughout history, going into battle without any form of protection was an exception, given the chaotic nature of this environment, where the presence of such equipment often represented the thin line between life and death for a soldier. Moreover, there was often the need to replace parts of the armors, involving the mixture of manufacturers and materials. Before the 14th century, specifically before the Hundred Years' War, a knight often faced only one battle throughout his life, allowing his armor to be passed down from generation to generation, as the only significant challenge was corrosion combat.

John Clements (2011) further states that there was no standardization of metal quality, size, covered area, armor thickness, etc. On a battlefield, you could find stronger and thicker armors along with weaker and thinner ones, which consequently meant that the latter would resist fewer attacks. Therefore, it is concluded that there was a remarkable diversity of types of armors, covering visual aspects and costs. This made it possible for even the lower nobility and men-at-arms to acquire lower-quality armor pieces. However, the main factor determining the resistance of an armor was the type of attack it faced, as in the case of this study, which considered the thrust of a sword. Similar to armors, quality was the crucial factor determining the performance of a sword.

Image 3 - The Battle before the Casttle of Roussilon - 1463

Loyset Liédet (1420-1479), available at: https://www.meisterdrucke.pt/impressoes-artisticas-sofisticadas/Loyset-Liedet/877070/A-batalha-antes-do-castelo-de-Roussillon.html.

In this highlighted illumination, the striking diversity in plate armors is evident, both in terms of appearance and composition. It is possible to notice the presence of knights wearing pieces from different types of armors, thus forming a comprehensive and

multifaceted protection. Even more intriguing is the observation of the wide variety of armors and helmets present in the same allied army.

Contrary to what one might assume, it was not common practice for knights and men-at-arms to exchange their armors merely for reasons of fashion or temporal aesthetics. In addition to the wildly varying exorbitant prices, the making of a piece of armor required, on average, four years, not to mention the months, and sometimes years, needed for transportation to the ordering location. For example, the English would commission pieces of armor and swords from specialized centers in Milan, Passau, Augsburg, Cologne, or Bordeaux (OAKESHOTT, 1998).

3 The quality and shape of swords

It is known that armors evolved throughout the medieval period, and so did swords. It is worth analyzing, initially, the swords after the Viking invasions[6] and subsequently the morphological evolution of blades from the 13th century onwards.

Beginning with the resplendent image of the medieval knight, symbolized by his sword. One evidence of this fact was the stereotyped image of the investiture, in which any knight could dub another person a knight, provided they were worthy. Standing or often kneeling, the candidate would tap the sword on the head and shoulders, conferring knighthood with this gesture (CRUZ, 2023).

Throughout medieval Europe, swords were the primary weapon of knights, mounted men-at-arms, and infantry. In times of peace, however, generally only nobles could carry a sword in public. As swords were considered "weapons of war" in most regions, peasants and burghers, not belonging to the warrior class of medieval society, were prohibited from carrying swords. An exception to this rule was granted to travelers (citizens, merchants, and even pilgrims) due to the inherent dangers of land and sea travel. Within the walls of most medieval cities, however, the carrying of swords was generally prohibited for everyone (BREIDING, 2004).

Like armors, there was no specific quality standard for swords because each kingdom, county, borough, and commune had its own armorer and way of producing swords. (mention here the morphological groups, A and B) Therefore, the only important factor that would determine the advantage of a sword against armor on a battlefield and/or in duels, and vice versa, was the quality of manufacture. But in favor of swords, between the 14th and 15th centuries, they underwent a true morphological revolution. Their shape was no longer simply described as double-edged blades. Now swords could be made in

triangular or diamond shapes, which allowed them to have significantly positive results in terms of penetration capability, including and most importantly for this study, piercing plate armors. This new shape also allowed force to be channeled. And finally, the sword tip underwent a tapering process, making it more prominent, visually describing its attack purpose.

An intriguing morphological detail stands out near the tip of this blade. Along its center, we notice a raised ridge called a fuller, a feature often incorporated in swords optimized for armor piercing. The fuller concentrates the force of a blow along the blade's spine, instead of dispersing it across the entire surface, allowing the energy to be directed along the entire length of the sword. This particularity plays a crucial role in increasing the stiffness of the blade's tip, thereby reducing the likelihood of bending during a critical thrust, without compromising its durability and strength. This stiffness proves essential as thrusts emerged as the primary method for penetrating armor with a sword. The thickness and rounded shape of armor plates presented considerable resistance to cutting blows, making a robust and sturdy blade imperative (GILL, 2016).

Image 4 - Sword of the XIV Century

Metropolitan Museum of Art, available at: http://www.metmuseum.org/art/collection/search/23367, accessed on: January 5, 2024.

The thick metal plates of armors primarily served to deflect cutting blows inflicted by swords. The intentional change in sword morphology brought about a new style of battle fencing. From the 14th century onward, knights and soldiers no longer focused their training on circular movements that provided fatal cuts, but rather on thrusting movements that enabled piercing through metal plates.

"What is supported by both fencing literature and chronicles of the 'plate era' is that thrusts were the most commonly used form of sword attack against armor" (CLEMENTS, 2011, p. 49).

Therefore, it is evident that armors presented significant vulnerabilities, such as variations in thickness, lack of uniformity in production, and high costs. Meanwhile, swords evolved with the specific purpose of piercing the resilient metal plates of armors. In this context, illuminations from the medieval era emerge as crucial primary sources, providing concrete evidence of the effectiveness of metal armor penetration. By studying illuminations, we gain valuable insights into the combat fencing strategies of the time and the continuous pursuit of effective methods to overcome the defenses provided by armors.

4 The veracity of the medieval miniatures

The widespread perception that medieval paintings and illuminations often leaned towards exaggeration and lacked factual precision persists. However, it is imperative to recognize that all forms of medieval art constitute notable and fundamental sources for understanding the context of the time, maintaining their value over time. These artistic expressions are, in fact, the only tangible "photographs" we have of that specific period.

Exploring the past in search of historical events leads us on an interesting journey. Those who dedicate themselves to this quest are guided by the traces left by the past. Both for contemporaries and inhabitants of the 15th century, chronicles play a fundamental role as witnesses of this intriguing scenario. As we leaf through the pages of Jean Froissart's text, we are immersed in battles and significant events that occurred at the beginning of the Hundred Years' War. Upon examining the manuscript, we encounter a plot of events, places, and highlighted names during the conflict between the kingdoms of France and England. As we turn the pages with attention, we encounter another form of trace: the illuminations of Loyset Liédet. The detailed scene on the parchment is observed, and the initially static image transforms into a dynamic representation. In this

engagement, the illumination reveals itself, transforming the object not only into a representation but into a living manifestation of history.

Clements (2017) highlights the importance of paying attention to the quality and details of the execution of these works. He suggests that medieval artists, when portraying weapons and armors, possessed first-hand knowledge of these elements, indicating a possible deep understanding of their performance in battle. Furthermore, the extraordinary accuracy with which artists represented combat scenes is emphasized, incorporating elements from their own context and experience. In this sense, paintings and illuminations transcend mere visual representation, becoming historical artifacts intrinsic to the understanding of life in the Middle Ages. Instead of simply reflecting events, they reveal the perspectives, knowledge, and even the emotions of the artists of the time. This direct connection to the past confers immeasurable value to these works, highlighting them as vivid and authentic witnesses of a distant era, whose understanding is enriched by the unique ability of artists to capture the essence of their own reality.

In Liédet's works in question, in addition to meticulously portraying armors, the illuminations also dedicate special attention to the weapons in use during the medieval period. Imposing swords, lances, robust axes, tense bows, and crossbows are detailedly represented, often wielded by knights amidst vibrant actions. These illustrations not only offer a realistic view of the weapons used in combat but also provide the ability to analyze the fighting strategies employed, allowing observers to immerse themselves in the dynamics of medieval conflicts. Details such as hand positioning and combat techniques are skillfully captured, lending a practical and authentic dimension to the representations.

One of the most notable and admirable aspects of Loyset Liédet's illuminations, inserted into the pages of Froissart's Chronicles, is the exceptional fidelity demonstrated regarding the combat techniques of the time, consistent and reported as in the Treatises of Fencing. Dating from the late 15th century, these visual representations not only record but also immortalize with remarkable accuracy the complexities of medieval combat tactics, weapon handling, and strategies adopted by warriors of the time. This invaluable fidelity to combat techniques establishes the illuminations as a source of incalculable value for scholars dedicated to historical martial arts.

Another notable aspect of Liédet is his singular ability to capture the impact of weapons on armors. Whether through sword blows, spear thrusts, swift arrows, or other projectiles, these meticulous representations minutely detail the effects of weapons on warriors' defenses.

Image 5 - The Rapture of Ydoire - 1463

Loyset Liédet (1420-1479), available at: https://www.meisterdrucke.pt/impressoes-artisticas-sofisticadas/Loyset-Liedet/877070/A-batalha-antes-do-castelo-de-Roussillon.html.

In the illuminated manuscript in question, there is a precise exemplification of the morphological description of 15th-century swords. Additionally, we observe a faithful representation of the heterogeneity of plate armors, not only among members of the allied army but also within a single armor, composed of several pieces likely manufactured in different periods. This illustration not only highlights the distinctive characteristics of swords from that era, providing a detailed view of their morphology, but also sheds light on the intrinsic diversity of plate armors. The variation is not limited only to different warriors but permeates the individual compositions of armors themselves, suggesting a collection of pieces possibly produced at different times. This level of detail not only contributes to the stylistic and technical understanding of medieval weapons and armor but also offers valuable insights into the evolution over time and manufacturing practices of the period.

The meticulous analysis of medieval illuminations, notably those illustrated by Loyset Liédet in the Chronicles of Froissart, reveals a treasure trove of valuable information about the authenticity of these artistic representations. Despite the widespread perception that such works might incur exaggerations and factual inaccuracies, illuminations emerge as authentic and vivid testimonies of life in the Middle Ages. Liédet's skill in portraying, with remarkable fidelity, the techniques and strategies of the time elevates these creations to an invaluable position for scholars dedicated to medieval militarism.

By transcending mere visual representation, illuminations become intrinsic historical artifacts, providing a unique insight into the perspectives, knowledge, and

emotions of medieval artists. The direct connection to the past confers immeasurable value to these works, enriching our understanding of the complex landscape of medieval combat. Meticulous details about the impact of weapons on armor not only document the wartime practices of the era but also offer insights into the resilience and vulnerability of warriors' defenses.

Therefore, Liédet's illuminations not only challenge the common conception of the veracity of medieval artistic representations but also stand out as an essential source that transcends time. They enable a profound understanding of the history and military practices of the Middle Ages, conferring exceptional richness and authenticity. This in-depth research underscores the crucial importance of recognizing illuminations as valuable witnesses to history, providing a singular and engaging glimpse into a distant period.

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