The Military Art in *Tirant lo Blanc*

Martí de Riquer

Universitat de Barcelona

e-mail: riquer@ub.edu

Reissue of the article that appeared in the book *In Memoriam Carles Riba* in 1973 / Available Online: 17 June 2013

**Resum**

El *Dotzè del Chrestià* d’Eiximenis és una excel·lent guia per a la comprensió d’alguns aspectes militars del *Tirant lo Blanc*. L’autor de l’article suposa que Joanot Martorell, el llegí i devia compulsar els seus ensenyaments amb la seva pròpia experiència militar. Un cop Tirant s’ha fet famós a Anglaterra, vénen els episodis mediterranis, on el protagonista és nomenat Capità imperial i general de la gent d’armes i de la justicia de l’Imperi grec. En aquests episodis no tot són batalles campals i combats entre forces oposades, sinó també una descripció acurada de determinats enginys de guerra i de recursos hàbils i intel·ligents per a sortir de situacions difícils, que Martorell especifica i descriu amb un admirable detallisme. Els nombrosos exemples de certes tàctiques apareixen també en el *Dotzè* en els capítols dedicats a les coses militars i guerreres. I encara que això no permet assegurar amb total certesa que Martorell s’hagi inspirat en Eiximenis, ens corrobora, una vegada més, que el *Tirant lo Blanc* és una novel·la fermament fonamentada en una realitat autèntica o, si es vol, que és un ver document d’una època.

**Paraules clau:** Tirant lo Blanc, Joanot Martorell, Dotzè del Chrestià, tàctiques militars, mesura i realisme.

**Abstract**

The *Dotzè del Chrestià* by Eiximenis provides and excellent guide for the understanding of several military aspects of the *Tirant lo Blanc*. The author of the following paper suggests that Joanot Martorell read it and corroborated its teachings with his own military expertise. Once Tirant had made himself known in England, the Mediterranean chapters follow, where the main character is appointed imperial captain and general of the men-at-arms and the justice of the Greek Empire. Not everything is about pitched battles and combats between opposing forces, there is also room for war stratagems, skilful and cunning resources to scape difficult situations that Martorell recounts and describes with unparalleled attention to detail. The abundant examples offered by the following paper appear also in the chapters the *Dotzè* devotes to military and war matters. And although that fact by itself does not ensure that Eiximenis inspired Martorell, it confirms that the *Tirant lo Blanc* is a novel firmly grounded in a genuine reality, a true document of its time.

**Key Words:** Tirant lo Blanc, Joanot Martorell, Dotzè del Chrestià, war tactics, moderation and reality.

* Unless otherwise specified, the English translation of texts and quotations is by PangurBàn Ltd.
Prologue by Dr. Isabel de Riquer

On 28 October 1969, Carles Riba (1893-1959), great poet, humanist and professor at the Autonomous University of Barcelona, was commemorated on the tenth anniversary of his death with an academic ceremony at the Aula Magna of the University of Barcelona; the event was chaired by Mrs. Clementina Arderiu, his widow, who was accompanied by the Dean of the Faculty of Philosophy and Arts, Doctor Joan Maluquer de Motes, by Doctor Jordi Rubió i Balaguer, the poet J. V. Foix, Professor Eduard Valentí i Fiol and Doctors Josep Alsina and Antoni Comas, directors, respectively, of the departments of Greek and Catalan Philology, organizers of the commemoration.

Numerous endorsements were read at the opening, and then the Dean gave the floor to professors Dr. Josep Alsina and Eduard Valentí, to the poet J. V. Foix, and to Dr. Jordi Rubió, who beautifully evoked Riba’s thesis defence in 1938, during the Spanish Civil War. In his closing speech, Dean Dr. Maluquer, stated that the meeting showed the persistence of the spirit of the Autonomous University of Barcelona, from which Carles Riba had been one of the most illustrious professors; a spirit to which the University of Barcelona aspired to become heir and continuator.

The organizers agreed to the publication of a miscellany as a reminder and perpetuation of that moving event. The book In Memoriam Carles Riba (1959-1969), released in 1973, and jointly published by Ariel, the Institute of Hellenic Studies and the Department of Catalan Philology at the University of Barcelona, is an original volume in many ways. It begins with a poem by the widow of the poet, Clementina Arderiu, entitled L’esperança encara, and continues with forty-seven essays –the ‘Studies’– written by scholars and friends of the poet on varied topics related to Catalan, French, Greek, Latin, and Italian philology, from ancient to modern times. The ‘Literary Tribute’ consists of forty-four compositions dedicated to Riba and written by renowned poets from all over Spain. This miscellany has the particularity of including, among its nearly 600 pages, ten prints by Antoni Tapies, Joan Miró, Joan Rebull, Rafael Benet, Joaquim Sunyer and Francesc Domingo, who is also the author of the beautiful female figure on the cover. Two photographs immortalizing moments of the life of the poet, a large table of endorsements and Carles Riba’s bibliography complete the volume.

In August 1931, Martí de Riquer wrote, in the journal Juventus, a brief comment on Les Estances where he enthusiastically praised the poetry of Carles Riba; a few years later, in La Publicitat, he argued (contrary to the opinion of some critics) that if poetry in Catalonia was in full bloom, this was due to, among others, Carles Riba, whom he considered ‘one of our great poets and distinguished humanist [...] his activity, engaged in different directions, produces excellent and
unsurpassed works’. Over the years, they often met at the gatherings held at the Ateneu and at the Bernat Metge Foundation, where Martí de Riquer received ancient Greek lessons from Riba. The friendship and respect remained unaltered until the poet’s death.


**THE MILITARY ART IN *TIRANT LO BLANC***

At one point of the prolix account of the feats of Tirant at the English court, rendered by his young companion Diafebus in the hermitage of the old count of Varoic, the latter, interrupting the description of so many singular battles, addresses a question to his audience: ‘Young knights who are trained in the exercise of arms, what would you rather be: strong yet not skilled nor ingenious, or skilled and ingenious but not strong?’ The question would remain unanswered, although ‘there were many opinions among the knights there’. It is clear that the hermit has raised the question in disjunctive terms, thereby preventing any knight with a modicum of dignity from opting for one possibility or the other, since none of them would admit their preference between the two options: being strong instead of being skilled, or being skilled instead of being strong. This chivalric conundrum would be convincingly solved in other chapters of the *Tirant*: ‘in war, cunning is better than force’, and ‘in war, all that is cunning is of great service to warriors’. ‘Being better’ or ‘of greater service’ do not exclude the other alternative. However, these ideas that attribute a greater value to cunning, scheming and guile than to physical strength surprise the reader of medieval chivalric romances, since courage and personal vigour constitute the essence of knighthood, the essence of their most famous and most admired heroes: from Lancelot du Lac to Amadis of Gaul. Knights who, indeed, could be assenyats (‘prudent’), but should always be, to the same extent, strong. The old formula *fortitudo et sapientia*, which was studied some years ago by Ernst Robert Curtius (1955, pp. 242-254) appears as the perfect balance between the two virtues. A balance that is achieved, in the old *Chanson de Roland*, through the combination of the two young heroes: *Rollant est proz e Olivier est sage* (‘Roland is brave and Olivier is wise’) (verse 1093).

Moreover, as the emperor of Constantinople and Tirant are conversing, the latter states that ‘for a war to be waged three things are required, and if one is missing, war cannot be done’.

---

1 ‘un dels nostres grans poetes i eminent humanista [...] la seva activitat, endegada per altres vies, produeix obres excel·lents i insuperables’.
2 ‘Vejam vosaltres, cavallers qui sou jòvens e sabents en l’exercici de les armes, qual estimarieu més: ¿ésser fort e no destre ni ginyós, o molt destre e ginyós e no fort?’
3 ‘entre aquells cavallers que allí eren hagué de moltes opinions’ (Martorell, de Galba 1969, chap. 73, l, p. 256).
4 ‘en les guerres més val aptesa que fortalesa’ (Martorell, de Galba 1969, chap. 23, I, p. 155).
5 ‘en la guerra totes coses d’astúcia aprofiten molt als hòmens guerriers’ (Martorell, de Galba 1969, chap. 315; II, p. 281).
6 ‘la guerra guerrejada ha mester tres coses, e si l’una d’aquestes defall, la guerra no es pot fer ‘.
emperor asks him what these three things are, and the knight replies: ‘People, silver and wheat’. The protagonist of a roman arthurien (Arthurian romance) or of a libro de caballerías (knight-errantry tale) could have hardly given such a pragmatic and startlingly modern response.

Some eighty years earlier, in the same city of Valencia, a Franciscan from Girona wrote: ‘Above all things, knights exercise cunning in battle, for, as the Scriptures say, “Melior est sapientia quam arma bellica”, which means that in war, good judgment is better than weapons’. The learned writer stretches the interpretation of Ecclesiastes 9:18 in order to fit his reasoning. A little earlier in that same text he had given the soldiers of a certain King Leandri some pieces of advice, the eighth of which was: ‘above all, they should display cunning, artfulness and adroitness to use weapons, since everything stands before God’. Thus, with these concepts, Friar Francesc Eiximenis introduces the numerous and very interesting chapters he devotes to warfare and military affairs in the magnificent Dotzè del Chrestià, which, to our shame, lacks a modern edition. These chapters by Eiximenis, studied to some extent by Father Andreu Ivars (IVARS 1923, pp. 228-231; IVARS 1925, pp. 350-364) and Luis Monreal (MONREAL 1971), are an excellent guide to understand some of the military aspects in the Tirant lo Blanc; and being the Dotzè del Chrestià so widely known, we can assume that Joanot Martorell, man of many and varied books, must have read it carefully, corroborating its teachings with his own military expertise. Hence, I will often turn to Eiximenis in order to discuss some of the passages from the Tirant.

Friar Francesc Eiximenis was obviously not a man of war, nor had he any experience with weapons. But, as in so many aspects of life, his keen perception made up for a lack of direct experience: the urban milieu of Valencia he frequented, full of knights eager to fight, constantly divided into factions and given to dissensions and battles to the death, being his observation point. As always, Eiximenis deals with these military chapters making use of a basic bibliography, such as the Stratagemata by Iulius Frontinus and the Epitoma rei militaris by Vegetius, the Summa de casibus conscientiae by Astesanus de Ast, the De re militari et duello by Paris de Puteo, the De batalla or Libellus de batallia facienda, the royal ordinances concerning the navy, the regulations established by the furs, etc., that is to say, the most common and handy texts. But besides these classical and standard sources, Eiximenis surprises us, as he often does, with long passages,

---

2. ‘Sobre totes les coses los cavallers usen de cauteles en llur combatre, car, com diu l’Escriptura, “Melior est sapientia quam arma bellica”, e vol dir que més val, en guerra, seny que armes’ (EIXIMENIS, Francesc, Dotzè del Chrestià o Regement de princesps e de comunitats). I quote from the copy preserved in the Biblioteca de Catalunya, in Barcelona, of the 1484 Valencian edition, indicating the corresponding chapters. These first two quotes belong to chapter 213. This part of the Dotzè must be posterior to 1380 (since in chapter 230 we read: ‘... in the age of King Charles, king of France, father of the one who reigns today...’ that is, Charles V, who died on 16 September 1380) and prior to 1387 (because chapter 575 states: ‘Lord King Pere, who reigns today...’ and Pere the Cerimonious died on 5 January 1387).
3. ‘que sobretret haguessen astúcia, art e enginy a usar d’armes, car, après Déu, aquí està tot’.
4. Translator’s Note: the furs were a series of charters promulgated by a king as the fundamental laws and basic rights of the kingdom, for example, the Furs of Valencia.
sometimes whole chapters, that, he claims, come from the writings or advices of singular and unexpected authors. It is indeed unusual to find a chapter beginning with: ‘Upon questioning about what makes a knight lose his skills in the use of weapons, the great and famous knight Godfrey of Bouillon mentioned the following sins’, and another one with: ‘Saladin, that great soldier, points out what every good knight should know’. But what is even more surprising is to attend, in this section of the Dotzè, to the transformation worked by Eiximenis on the Arthurian knights of the romances, famous in arms and love affairs – and due to the latter blamed by Friar Antoni Canals--, who become authors of treatises on the military art: ‘Returning to the main purpose of the military exploit, the renowned knight Tristram of Lyonesse asserts’; ‘Lancelot, renowned knight, still propounds for that end the following rules and documents, as referred in Gallic stories’; ‘Note here that the great knight Gawain points out that when many enter the jousting field’; ‘Galahad, renowned knight, mentions in his Treatise on Battles that there are four types of battles’; ‘The great knight Palamedes identifies this general rule for every warrior’. We also find Olivier, from the Chanson de Roland, as a theoretician of the military art: ‘The renowned knight Olivier, count of Savoy and companion of the great knight Roland, notes that in some cases the few usually prevailed over the many’ and, going even further, he also includes the authority of a Homeric hero: ‘A doubt that the renowned knight Ulysses settles by stating the following points’. The fact that Ulysses has become a ‘knight’ is in full accordance with medieval thought, and it is enough to read the Roman de Troie to see that Eiximenis remains true to his time. But while the dawn of the Renaissance was already reaching Catalan literature, when Bernat Metge can already be considered as a humanist, Friar Francesc Eiximenis gravely starts a chapter with the following passage:

The illustrious knight, king of Crete, named Jupiter, son of Saturn, who gave to the third part of the world the name of Europe, where we dwell today, and did so for the love of Europe, daughter of Aggenor, king of Libya, whom he had abducted; from him was born Hercules, who was a famous knight raised in Thebes, a city of Greece, and great and significant chivalric feats were accomplished by the aforementioned Jupiter; this Jupiter, studying military exploits in depth, composed several instructive works which are regarded as excellent and useful by those versed in weapons.
Although the problem of the sources of Eiximenis is still far from being studied as it deserves, due to a lack of modern editions of his works, we could venture that the Friar Minor from Girona concealed, behind the names of fictional knights, theories, principles and advices on the military art that he had gathered not only on the basis of his readings, but also through long conversations with the soldiers in his milieu. On a previous occasion I had the opportunity to point out that the brief chapter of the Dotzè concerning *quines armes porten los hòmens armats d’aquest temps* (‘the weapons carried by the men-at-arms of our days’), is a document of great value that describes an attire which corresponds almost exactly to the famous armour preserved in the castle of Churburg (Tirol), dated between 1380 and 1390. I also noted there that our writer mentions the lance rest, a major element in the evolution of personal armour, which was a true novelty in Europe by the time he wrote the chapter (De Riquer 1968, pp. 73-80). But in the same section of the Dotzè there is another chapter, chap. 274, *qui posa manera de batallar a peu segons escots e anglesos* (‘concerning the way in which the English and Scots battle on foot’), that draws the attention of the reader due to its vividness and immediacy; a chapter in which we find the arrangements, armament, tactical movements and combat styles used by the Black Prince of England at the Battle of Nájera (3 April 1367). We must remember that the defeated army of Enrique of Trastámara had reinforcements from the Crown of Aragon, and that his right wing was commanded by Alfons, count of Denia, who was captured and brought to England where, twenty-five years later, his ransom was still the object of a long dispute (Rogers 1962, VI, pp. 74-108; Rogers 1963, VII pp. 53-78). The Valencians who fought at Nájera, among them the poet Pere March (Ausias’ father), who was also captured, could well have been Eiximenis’s sources concerning the way of battling ‘the Scots have recently discovered’, which is carefully described by the Franciscan scholar, since the Dotzè del Chrestià is precisely dedicated to Alfons, count of Denia, commander of the right wing of the army defeated at Nájera.

Not all the military doctrine conveyed by Eiximenis comes from books, thus, in these chapters of the Dotzè we find, more than once, peculiar observations that at least reveal a fairly direct knowledge of things. I would like to remark a rather curious example. The experts in medieval armour, a suit of leather and iron that covered the entire body of the knight, do not explain how these men-at-arms, who were attired in this fashion during hours and days on end, managed to satisfy certain physiological needs which could not be entrusted to others. Eiximenis provides the answer: ‘According to the Spanish *fur*, combatants are allowed to carry a lot of cotton inside their breeches, so that, if they need to urinate, they can do so in their breeches’, a similar solution to that currently adopted by astronauts and to that children in diapers have used for centuries.
The biological warfare is, to some extent, taken into account by Eiximenis when he describes the methods used by Alexander of Macedonia when he did not succeed in seizing a city through the usual means:

he ordered the urine of men and beast alike to be mixed with the faeces of men, and then the mixture boiled; and he ordered that horrid concoction to be hurled with a lot of basins at their faces and beards; and besides the scalds due to the strength of the sun, the wall and the place where the concoction fell reeked, so much that no one could stand there; therefore the mean-spirited besieged, thus tormented by the siege engines and the arrows in their bodies, the dust in their eyes, the stench in their noses, and the scalds in their entire bodies due to such boiling liquids that burnt them all over, almost desperate, surrendered the place...24

When Tirant lo Blanc decides to go to Constantinople to defend the Greek empire, he says about himself: ‘For as much as fortune has spoilt me and been my friend, and the prosperity of the planet Mars, under which I was born, has granted me victory, honour and state, I do not need to boast about more than what fortune has given to me’.25 Eiximenis, listing the ways in which ‘the Romans in their time trained good knights’,26 claims that:

...the first takes into account the constellation under which someone is born, since the celestial influence or regard upon the youth during his birth, can determine whether he will be a great knight or a no-good; since Geber claims in his astrological works that the martials are apt at battling, depending on the power of the planet Mars during their birth.27

It is, as we know, an idea repeated more than a thousand times; but it is worth recalling that when Plaerdemavida, in North Africa, gives Tirant a long speech before revealing herself to him, she alludes to the same authority as Eiximenis: ‘Consider what a poet of ours called Geber says...’28 Also appropriate to the military and love life of Tirant lo Blanc, so hectic and full of changes, is the adage adduced by Eiximenis: ‘In weapons and love, one pleasure, a hundred pains’.29

---

24 ‘(...) feia pendre la urina de tot l’estol dels homens e de les bèsties, e feia-ho mesclar ab la femta dels hòmens, e puis feia-ho bullir; e d’aquella hòrrea confecció feia’ls en gitar dalt per la cara e per les barbes ab moltes caces; e ulta l’escaldadura per vigor del sol, retia lo mur e el lloc on caïa així pudent que negun no hi podia aturar, així que los mesquins dels assetjats, qui es veien així turmentats per ginyx e per sagetes en lo cos, e per pols en los ulls, e per pudors en lo nas, e per escaldadura per tot lo cos de les dites licors bullents, qui tots los escaldaven, quasi desesperats retien lo lloc’ (chap. 295).
25 ‘Per bé que la fortuna m’haja consentit, e em sia estada amigable, e la pròspera ab la planeta de Març, en la qual jo naixquí, m’ha volgut dar victòria, honor e estat, no cové a mi presomir més que la fortuna no m’ha donat’ (MARTORELL, DE GALBA 1969, chap. 116, I, p. 368).
26 ‘tenien los romans, en llur temps, a fer bons cavallers’.
27 ‘...la primera sí és consideració de la constel·lació sobre la nativitat de l’hom, car tal influència o esguard celestial pot haver hagut lo fadrí quan neix que serà gran cavaller o no serà bo a res; per què posa Geber en los seus juïs astròlegs, que tots los marcialis són aptes a batallar, e açò segons més o menys segons que la planeta apellada Març, les és pus poderosa en llur nativitat’ (chap. 224).
29 ‘D’armes e d’ amors, a un plaer cent dolors’ (chap. 226).
As it is well known, Tirant lo Blanc was proclaimed Imperial Captain and General of the men-at-arms and the justice of the Greek Empire; moreover, at the end of the novel, he is designated as the heir and Caesar to the Empire. He is usually called captain, and has under his command the Grand Constable of Greece, a dignity first held by the count of Bitimia, then by Diafebus, and finally, after the latter is taken prisoner, by master Adedoro. According to the terminology used by Eiximenis, Tirant meets the conditions required of both the prince and the constable. The Franciscan scholar writes: ‘In every good army, after the prince comes the master of the horse, who is also called constable’; and shortly afterwards he goes on:

The aforementioned master was so called by the Greeks and the Romans, but among the Chaldeans and the Persians he was called prince of cavalry; the French call him seneschal or provost; the Spanish call him constable. And this name is more familiar to the men of the kingdom of Aragon, according to their statutes and customs, and we will hereafter call him in this manner. Under the law of Aragon he must be the son of the king or kin to the king to honour such position; in case no one good enough is to be found in the royal lineage, someone from the most notable houses of the realm must be appointed out of reverence for the position. This ... must be loyal and true (chap. 237).

Tirant, in a Greek Empire lacking for a male heir, and destined to become the husband of Princess Carmesina, equals Eiximenis’s constable in military dignity.

Tirant lo Blanc presents a ‘curriculum vitae’ that responds to the reality of the 15th century, which abounded in youths who became knights-errant and, after gaining prestige in this way, were appointed as captains to command large armies and fleets. The trajectory followed by Guillaume du Chastel, Jacques de Lalaing or Pedro Vázquez de Saavedra is also that of Joanot Martorell’s main character: he made himself known in England for his remarkable victories in the jousting arena, and that prestige enabled him to become the captain of many men-at-arms. As a good general (if that name is to be applied here) he knows not only the art of war on land and at sea, but also who the good soldiers are. In order to tell apart the brave from the coward, he gives the following advice:

Sound the alarm, and pretend the enemy is coming, and once you are on the field, dismount and successively try all their spurs, and leave aside the men who wear them loose; and send to me the men who wear them tight, since it is impossible that they are not good and skilled in weapons.
When Martorell explains that the people from ‘the land of Enedast’ educate their children in accordance with a spartan system devised to make good soldiers, and that ‘the last trade they are taught is the trade of the butcher, so that they get used to cut up meat into pieces and do not fear to manipulate blood, and through that trade they become cruel’, he reminds us of what Eiximenis advocates regarding the training of a warrior:

And already since his fourteenth year let the man-at-arms start his training, and choose men with wide shoulders, choleric, with lean faces, wide chests and shoulders, flat stomachs and thin thighs, lively eyes, the heads held high, with hard hands; and if you must choose between specific trades, do not choose fishers, nor hunters nor soft men, but ironsmiths, carpenters, butchers and masons, and hunters of wild boars, and those with a sense of shame who fear and are ashamed of fleeing.

Tirant, knowledgeable about the weaknesses of the soldier, waits before capturing several thirsty Moors until they have ‘quenched their thirst and are full of water’, since then they will not be able to run very fast; an effective and elementary resource, as that of exposing a captive enemy king to the shots of those besieging the city (Martorell, de Galba 1969, chap. 321, II, p, 206). This simple way of waging war, which does not even amount to cunning, constantly appears in the pages of the Tirant lo Blanc devoted to war, and provides them with a sort of spontaneity. Sometimes, and always as a resource used by the enemy, the tactics are dishonourable. Let us recall, for example, the knight who fights Tirant in singular combat ‘who wore the leg armour made of pasted paper so well covered with tin plates, that it looked like his leg and thigh were armoured’. As it is well known, in the 15th century, the defences that protected the lower leg and thigh were made of iron or steel, which made them very suitable for fighting on horseback; however, in a fight on foot, as was this one, their weight made movements difficult and fatigued the knights. The opponent of Tirant wore cuisses and greaves made of cardboard, that he had lined with tin plates so that they looked metallic. This ruse is better understood taking into account that walking with armoured legs was so arduous that Alfonso the Magnanimous, evidently as a form of penance, announced on 20 December 1419 that he intended to ‘climb to Our Lady of Montserrat, and we will climb the slope with armoured leg and thigh’.

---

33 ‘lo darrer ofici que els mostren és carnissers, perquè s’aveen a esquerrar la carn e no hagen temor de menejar la sang, e ab tal ofici tornen cruels’ (Martorell, de Galba 1969, chap. 238, II, p, 123).
34 ‘E ja a catorze anys faràs que començ l’hom d’armes a exercitar si mateix, e elegiràs hòmens espatluts, colèrics, magres en la cara, ab grans pits e espatles, ab poc ventre e ab estretes anques, ab ulls vius, ab lo cap dret, ab les mans dures; e si d’ofícis especials los has a elegir, no elegesques pescadors ne caçadors ne hòmens molls, mas ferrers, fusters, carnissers e pedrets, e caçadors de porcs salvatges, e hom de vergonya qui tema e es confona fugir’ (chap. 217).
36 ‘portava l’arnès de les cames de paper engrutat cobert de fulla d’argent, que pròpiament paria annès de cama e de cuixa’ (Martorell, de Galba 1969, chap. 731, I, p. 255).
37 ‘muntar a Nostra Dona de Montserrat, e havem a muntar la costa ab annès de cama e de cuixa»«Climb to Our Lady of Montserrat, wearing leg and thigh defences’ (Giménez Soler 1909, p. 24).
In the part devoted to Guillem de Varoic, the expert knight asks the countess to send him two large barrels *que són plenes de llavors d’espinacs* that were stored in the castle armoury. ‘Then he ordered that the caltrops were brought to the gates [of the city] and that the ground was strewed with them, so that, when the Moors arrived, they would stick into their feet; and so it was done’.39 And, indeed, when the attack came, ‘once the Moors were at the gate, since there was no other way to enter, those stinging grains stuck into the soles of their feet’.40 The current reader who mistakes these ‘caltrops’ for the well-known plant will not understand this war stratagem. Eiximenis, listing a series of ‘preventive measures’, writes:

... see that he [the enemy] has dust, wind or the sun on his face, all of which impedes his sight; or strike him suddenly in a dangerous spot, or shout at the top of your lungs, almost as one who speaks to the one behind him, or see that he turns around and fears something, or strew the ground with caltrop seed cases or true caltrops or iron caltrops...41

Later on, gathering *alcuns avisaments qui poden procurar victòria* (‘some pieces of advice that can ensure victory’), he writes that it is advantageous to draw the enemy ‘to narrow, abrupt and unknown places, or to murky spots and marshes, or to places with silos or riverbanks and reservoirs, or to a place where you have sowed caltrops or nails or any other underbrush’.42 The shape of these caltrops is clearly explained in the 13th-century *Primera Crónica General* by Alfonso the Wise of Castile, when he recounts the battle of Úbeda, or battle of Las Navas de Tolosa:

And the Moors who rebelled and battled defending themselves, managed to create certain iron tools with which they strewed the ground, to the disgrace of the Christians, and were shaped as *abrojos*,43 and history calls them *cardos de fierro* (‘iron thistles’), and they sowed them and threw them in all the fords of the Guadiana; and they had four spines arranged in such a manner that whatever the way in which these iron thistles, or *abrojos*, fell to the ground, one of them always pointed upright and stuck into the feet of men and the hooves of horses.44

---

38 TN: Lit. trans. ‘full of spinach seeds’. The author will shortly show that these ‘spinaches’ have nothing to do with the vegetable and that the term has a completely different meaning here. The English equivalent for the weapon he is about to describe is ‘caltrop’. Since ‘caltrop’ is also the name of a plant whose spiked seed case can also injure feet, hereafter, and for the sake of the argument, we will use ‘caltrop’ instead of the more literal translation, ‘spinach’.

39 ‘Aprés féu portar la llavor dels espinacs en lo portell [de la ciutat] e llançaren-los per terra, a fi que, com los moros passassen, los se ficassen per les peus; e així fon fet’.

40 ‘com foren dins lo dit portell, que per altra part passar no poden, ficaven-se aquells grans de coure per les soles dels peus’ (Martorell, de Galba 1969, chap. 24, I, pp. 157-158).

41 ‘... procurar-li [a l’enemic] pols per la cara, esguardant al vent o girant-li lo sol, e açò l’empatxa a veure; o donant-li colp sobtós per lloc perillós, o gitant-li gran bram, quasi qui parla a altre qui estiga detràs, o procurar-li que es gir o que es tema de queucom, o sembrar-li per terra grans d’espines o d’espinacs vers o de ferro ...’ (chap. 216).

42 ‘a llocs estrets, aspres e no coneguts, o a llocs fangosos e aiguals, o a llocs on ha sitges o ribassos e embausssos o a lloc on ha sembrat grans d’espinac o claus o qualque altra malesa’ (chap. 269).

43 TN: again, *abrojo*, is both the name of a plant resembling the thistle and the Spanish equivalent of the caltrop used as a weapon.

44 ‘Et los moros que y revellavan et guerreavan defendiéndosse, assacaron de fazer unos estrumentos de fierro que sembravan per la tierra, a danno de los cristianos, et eran fechos a manera de abrojos, et llamáles la estoria ‘cardos de fierro’, et sembráronlos et echáronlos per todas las passadas del rio de Guadiana; et avie en ellos cuatro aguijones, et como quier que aquel cardo de fierro que dezimos, o abrojo, caesse en tierra, el uno d’aquello aguijones siempre se parava derecho a arriba, et ficava en los pies a los omnes et en las unnas a los cavallos (Primera Crónica 1955, p. 695).
Tirant, in North Africa, finds himself besieged in a castle and fears that the enemy will undermine the walls:

He ordered them to dig a counter-mine, and place brass basins in all the lower chambers, so that, when they [the enemy] dug the mine and it was almost finished, if they found a basin, when they struck it with their picks, it immediately would make noise: especially if many of them were close to each other, in which case they would make a tremendous noise.

Indeed, this measure allowed the castle defenders to prevent its undermining. Eiximenis, in the chapter dealing with com los assetjats se deuen guardar de caves o d’altres cauteles (‘how the besieged must be on the alert for mines and other preventive measures’), explains the same resource:

The besieged must be on the alert in case the besiegers dig under the wall... Then, if they suspect it is happening, they must place empty basins at the foot of the wall, on its inner side, and watch out for any noise, because if they make noise, that is a sign that the earth beneath is moving due to those who are digging mines beneath the wall.

The basic ruse concocted by Tirant when he enters the enemy city as an ambassador with the purpose of both seeing how many forces they have deployed and spying on them (Martorell, de Galba 1969, chap. 307, III, p. 261), is not unknown to Eiximenis, who writes:

A good preventive measure is to pretend to make peace with the enemy and, on the excuse of negotiating the terms of such peace, send to him sagacious men who look closely at the enemy army, at who they are and how many, at their behaviour, at the amount of food they have, at how well they get along with each other and other circumstances.

Ruses, resources, preventive measures and even ‘commandos’ related to the war at sea are no less abundant in the Tirant lo Blanc. Admiral Guillén studied in depth the naval terminology of the novel, clarifying many of the terms and circumstances used in the book by Martorell and Galba (Guillén 1969). Eiximenis starts considering the ‘sea battles’ by drawing a clear distinction, obvious in the Tirant; the Franciscan scholar writes:

---

45 ‘E ordenà que fos feta una contramina, i en totes les cambres baixes fosssen posats bacins de llautó, per ço que, com caven en la mina e són prop d’ haver-la cavada, si bacins hi ha, com donen lo colp ab lo pic en aquella cambra on lo bací és, tantost ressona: en especial, si n’hi ha molts que estiguen los uns prop dels altres, fan gran remor’ (Martorell, de Galba 1969, chap. 339, II, p. 327).

46 ‘Si los assetjats caven dejús lo mur, a açò los assetjats deuen haver l’ull obert... Après, si d’açò han sospita, posen al peu del mur endins bacins buits, e atenen si faran poc ne molt de so, car si ho han, senyal és que la terra dejús se mou per aquells qui fan les caves dejús lo mur’ (chap. 309).

47 ‘És bona cautela fènyer-se valer pau ab son contrari e trametre-li persones avisades, sots excusa de tractar pau, les quals entenen bé a l’estol dels contraris i a qui són, ne quants, ne quins comportaments fan, ne si han molta vianda o poca, o si han pau ab si mateixs e així de les altres circumstàncies’ (chap. 231).
Sea battles are usually waged with two kinds of ships. The first kind is the nau, used from the ocean to the west of the Strait of Gibraltar to Dacia and Norway, through Portugal and Biscay and Gascony and Brittany to Flanders and England. These ships are small and strong, and more apt for battling than for carrying loads, although they are suitable for both. The second kind of ship fit for sea battles is called galley, and with these ships battles are waged in the Mediterranean Sea, which expands west to east from the aforementioned Strait of Gibraltar to Armenia, and north to south from Italy to Egypt. These ships, since they are long and narrow, need to be tightly rigged with strings in many places during storms, so that they can withstand the battering of the seawater and the tempest.

Furthermore, as a peculiar detail Eiximenis, upon dealing with galleys, claims that ‘nowadays Catalans use to call the starboard after Saint Mary, and the port after Saint George; so that everybody can quickly understand to which place he is called when the time comes or there is need for it’.

In the midst of a sea battle, at the behest of Tirant, ‘they hurled hooks from each ship, and held them tightly, so that the ships could not separate even if they wanted to’. Eiximenis recommends the same operation:

If a prince has a fleet at sea, see that, in case of battle, he holds the ships together with hooks attaching them to one another, and that he puts up bridges on top of them so that the combatants can run around as they would on a square, thus allowing the knights and landsmen to help the sailors.

One of the most interesting maritime stratagems of the novel is that through which Tirant’s fleet, consisting of only eleven nau and two galleys, seems to be composed of seventy-four warships, which causes the Turkish enemy to flee. At night, the actual warships appear first and after them ‘all the whalers and all the boats of the ships; then the fishing boats; and the boats with no mast

---

48 TN: the nau was a large and robust ship, with square sails and without oars, that sailed along the Mediterranean and Atlantic coasts during the 13th, 14th and the beginning of the 15th centuries.

49 ‘Batalles de mar se fan comunament ab dues maneres de veixells. La primera és ab nau, així com en l’ocecean vers ponent de l’estret de Gibaltar fins en Dàcia e fins en Noruega, passant per Portugal e per Viscaia e per Gascunya e per Bretanya fins en Flànders e en Anglaterra. Aquestes naus són poques e forts e més aptes per batallar que per portar càrrecs, jatsia que a tot serveixen. La segona manera de veixells per batallar en mar és apellada galea, e ab aquests veixells se fan les batalles en la mar Mediterrànea, qui dura, de llong, del dit estret de Gibaltar fins en Armènia, e, d’ample, d’Itàlia fins en Egipte. Aquests veixells en quant són llongs e estrets requeren que en temps de tempestat que ab cordes sien bé lligats per molts llocs, per tal que puixen soferir los grans colps de l’aigua de la mar e la sua tempestat’ (chap. 333).

50 ‘ara en aquest temps solen catalans apellar la banda dreta banda de Sancta Maria, e l’esquerra banda de Sanct Jordi; e açò és així ordenat per tal que pus prestament cascú entena lo lloc a que serà apellat quan sia hora o necessitat’ (chap. 336).

51 ‘de cascuna de les naus llançaren los rampagolls, e tengueren-se molt fort, car no s’en podien anar encara que ho volguessen’ (Martorell, de Galba 1969, Chap. 164, I, p. 574, Guillén 1969, p. 56).

52 ‘Si en mar alcun príncep ha estol de naus, que en temps de batalla ab rampagolls les ajust e les faça enfrenellar e els git ponts damunt, per los quals los combatents còrreguen així com per una plaça, e llavors cavallers e hòmens de terra poden bé ajudar als mariners’ (chap. 268).
put up a long staff or an oar, and tied it fast, or hung, at the top of the staff, a light inside a lantern'.

And indeed at sea we have frequently seen that thirty galleys took over a hundred in this manner, since the thirty sailed carelessly and had behind them a hundred feluccas which carried torches that were suddenly lighted, so that they seemed an infinite fleet; and thus, thirty galleys vigorously advancing, took the heart and the power from their opponents and defeated them.

The ploy of the astute sailor who, at Rhodes, sets fire to the ship of the Genoese captain, thus lifting the siege of the island, was studied by Dámaso Alonso as a model of perfect and meticulous description and a display of the intelligent art of Joanot Martorell (ALONSO 1951, pp. 185-187); the same applies, from the standpoint of naval technique, to the study by Admiral Guillén (GUILLÉN 1968). It would be absurd to try to summarize the pages where Martorell explains, without a word too many or too few, the skilful and complicated stratagem of the astute sailor, an episode of the Tirant that everyone remembers (MARTORELL, DE GALBA 1969, chap. 106, I, pp. 328-332). Eiximenis, claiming that he draws on Arxafat, ‘a famous Libyan corsair’ (famós corsari en Líbia), outlines the essential part of the manoeuvre of the astute sailor:

If the galleys battle many tall well-rigged ships, he says that you must torch one of the galleys, the oldest, or its rowboats, and set fire to those rowboats, and, once afire, approach them to the ship with strings, a galley rowing from one side, another from the other.

When Tirant is rescued in North Africa after the shipwreck ‘with the first step he took outside the house, he fell to the ground head first and with his arms wide open’. The Moors interpreted his fall as an ill omen, but he replied:

Your judgement is not sound, since I am called Blanc, and the moon is now bright, white and beautiful, in this, the time of my fall, and the moon was over my head and my arms pointing to the road I must take, and was not behind me nor on one side, and my hands were open towards the moon, which shows that I, with the help of the Divine Providence, will conquer the whole Barbary.

---

53 ‘tots los baleners e totes les barques de les naus; aprés, les barques dels peixcadors; e les barques que no tenien arbre alçaven un llarg bastó o un rem e lligaven-lo fort, o al cap del bastó posaven una llum dins un faró’ (MARTORELL, DE GALBA 1969, chap. 164, l, p. 573).
54 ‘E de fet en mar havem vist sovint que trenta galees ne prenien cent per esta manera, car les trenta venien en descuit e havien ab si qualsevol cent llauts detràs, portants falles enceses sobtosament, així que aparia un infinit estol; e per esta via les trenta galees, firent vigorosament, tolien lo cor e el poder als contraris e els vencien’ (chap. 230).
55 ‘Si galeres combaten a forts naus, e altes, e bé aparellades, dix que deuen metre foc a una galea, la pus vella, o a llurs bateus, e encendre los dits bateus, e, encesos, que els acosten a la nau, ab cordes, una galea remant deçà e altra dellà’ (chap. 334).
56 ‘lo primer pas que donà eixint de la casa, caigué tot estès ab los braços oberts e estesos’.
57 TN: blanc is Catalan for ‘white’
58 ‘No haveu llevat bon jui, car jo he nom Blanc, e la lluna és clara, blanca e bella ara en aquesta hora que só caigut, e la lluna restà en dret del meu cap e dels braços senyalant lo camí que jo dec fer, e no és restada atrás ni al costat, e les mies mans són restades obertes e estesos devers la lluna, per què demostra que jo, ab ajuda de la divina Potència, tinc de conquistar tota la Barberia’ (MARTORELL, DE GALBA 1969, chap. 301, II, p. 248).
The story is well known and it is usually attributed to Scipio’s landing in Africa, according to Frontinus’ report (Stratagemata, I, XII, I). Eiximenis also recounts it:

Gaius Fabius, emperor of the Tartars, had the power of avoiding sorcery and turning to his advantage all the signs he came upon, thus, if upon entering the land he wanted to conquer he fell to the ground, he said that it was a sign that the land wanted him as its lord.

Although the similarities identified so far, about which we could say a great deal more, do not allow us to ensure that Joanot Martorell was inspired by Eiximenis –even if it is highly unlikely that he did not know the Dotzè del Chrestià–, they confirm, once again, that the Tirant lo Blanc is a novel firmly based on a true reality or, in any case, an authentic document of its time. We must insist that the Tirant is not a knight-errantry tale like Amadis de Gaula, but a chivalric romance such as Curial e Güelfa and Jean de Saintré, and that, if we wish to find a similar work in Spanish literature we have to refer to the Vitorial by don Pero Niño, the biography of a knight who really existed. The figure of Tirant, equivalent to the constable Eiximenis talked about, is noticeably shaped, through the emphasis on his cunning as a strategist, as that of a great knight, and by no means as that of a bourgeois, since Joanot Martorell, himself a knight, hated bourgeois as much as he did jurists.

The strength of the military forces is usually a good way to calculate the sense of reality in a medieval literary work, since there is a marked tendency to exaggerate their number; a tendency to which most chroniclers are also prone. The chansons de geste and knight-errantry tales set in motion huge armies, which sometimes surpass the number of inhabitants of a country or a large city.

First, let us have a look at the number of men-at-arms with whom Tirant lo Blanc comes to the aid of Constantinople, since Martorell only says that the contingent arrived in ‘eleven galleys’ (onze galeres) (Martorell, de Galba 1969, chap. 116, I, p. 369). When our knight arrives to the capital of the Greek empire, the emperor informs him that he has the wealth to pay for an army of 200.000 men during twenty or thirty years. However, at the moment he only has 60.000 combatants deployed along the borders, fighting against the Turks; more than 80.000 are in Constantinople and the territories still under Greek control, and the Genoese, arriving in forty ships, are 25.000 (Martorell, de Galba 1969, Chap. 123; I, pp. 390-391). This makes a total of 165.000 men, to which the forces commanded by Tirant that we are trying to determine must be added.

Shortly afterwards, in the same city, Tirant parades all the forces then under his command, which amount to forty-eight squadrons, that is, 183.000 men. From this we can infer that a squadron is

59 ‘Gal·lus Fabi, emperador dels tartres, sí feia son poder d’esquivar fetilleries e de girar en bé tots senyals qui vinguessen, car si en l’entrada de la terra que volia conquerir caigués en terra, deia que era senyal que la terra lo volia per senyor’ (chap. 247).
composed of 3.812 men (Martorell, de Galba 1969, chap. 132, I, p. 421). This parade is held in the midst of the war, and therefore cannot reflect the total amount of imperial defenders, because simultaneously, they were fighting along the border with the Turks.

Later on, the people fighting for the empire receive reinforcements twice: the five large ships sent by the master of Rhodes, with 2,000 combatants, and seven ships sent by the king of Sicily with 5,000 men (Martorell, de Galba 1969, chap. 139, I, p. 452, and chap. 154, I, p. 519). All these reinforcements, as it is well known, arrive to Constantinople only as a sign of appreciation and affection towards Tirant, and join his own army. The emperor, praising the great help provided by Tirant, pronounces: ‘I am indebted to Tirant, because ten thousand men serve me at his expense for the love they bear him: those who just arrived and those sent to him by the Great Master of Rhodes’.60 Taking into account the 2,000 men from Rhodes, and the 5,000 men from Sicily, the remaining 3,000 men up to 10,000 are those who arrived with Tirant. We know that he reached Constantinople with eleven galleys, which means that each ship carried about 272 men. The number of men thus inferred for each galley does not match the number that could be deduced from the large vessels sent by the Grand Master of Rhodes, or from the ships of the king of Sicily, 400 and 714 men per ship respectively. However, Antoni de Capmany indicates that a medieval warship in the Mediterranean Sea used to carry, besides the crew, approximately 140 to 300 men (de Capmany 1961, pp. 62-63), range that includes the 272 men of each of Tirant’s galleys.

The 3,000 men of Tirant’s expedition are an example of the moderation and authenticity of Joanot Martorell. The chronicler Ramon Muntaner, the best informed in such matters, clearly specifies the contingents that Roger de Flor takes to the Greek Empire in the famous expedition which, to some extent, inspired the plot of the Tirant lo Blanc. From his alqueria (‘farmhouse’) in the Valencian Horta, the chronicler from Peralada writes:

Once together, between galleys and naus and ships and taridas61 there were thirty-six sails, and fifteen hundred registered horsemen, fully equipped except for the horses; and there were four thousand almogavars,62 and more than a thousand hired seamen, besides the galley slaves and the sailors that belonged to the captain. And all of them were Catalan and Aragonese, and most of them took along their wives or mistresses, and their children63

---

60 Só jo molt obligat a Tirant, que deu milia hòmens a llur despesa me serveixquen per amor d’ell: aquests que ara són venguts e los qui lo Gran Mestre de Rodes li tramès’ (Martorell, de Galba 1969, chap. 155, I, p. 524).
61 TN: the tarida was a type of ship used in the Mediterranean to carry impedimenta between the 13th and 14th century.
62 TN: the almogavars were independent infantry soldiers of the Hispanic Christian kingdoms; since the thirteenth century they defended the borders with Islamic territories and lived by the booty obtained as a result of the raids they carried out there.
63 Així, con foren recollits, foren, entre galeres e naus e llenys e tarides, trenta-sis veles, e hac-hi mil e cinc-cents hòmens de cavall per escrit, arreats de totes coses, salvant de cavalls; e hac-hi ben quatre milia almogàvers, e ben mil hòmens de mar de sou, menys des galiots e dels mariners qui eren del navili. E tots aquests eren catalans e aragonesos, e la major part menaven llurs mullers o llurs amigues, e llurs infants’ (Muntaner 1951, chap. 201, p. 22).
Therefore, excluding the crew, the women and children, Roger de Flor took along to Greece 6,500 combatants in thirty-six vessels, that is, 180 men-at-arms per ship. It seems that Martorell in his novel was more moderate than the historical reality.

We have seen how the size of the Christian forces defending the Greek Empire is first estimated at 165,000 men and later at 183,000. In reference to the Moorish contingents, Tirant lo Blanc provides varying estimations. Once the truce is over, the emperor announces to his Council that ‘a vast number of Moors is coming’ (ès venguda infinida morisma), and enumerates the armies of several kings, which combined, amount to 239,000 men-at-arms (Martorell, de Galba 1969, chap. 239, II, pp. 122-123). Therefore, if we sum the maximum figures provided for these opposed military forces, Christian and Moorish, the resulting number is 422,000 combatants, and if we consider that, at the time of Martorell, the kingdom of Valencia had about 400,000 inhabitants, 75,000 of which lived in the city, we would be tempted to conclude that our novelist was exaggerating. Even more if we take into account that the king of England optimistically believed in 1454 that he could easily mobilize up to 19,000 men, and that Charles the Bold of Burgundy, in 1473, gathered up to 14,800 combatants (Lot 1946, pp. 139 and 117).

These large figures abound in those chapters of the Tirant lo Blanc that take place in North Africa. Let us consider only the largest. At one point, the Moors received support from ten kings, ‘each of them with at least forty-five thousand combatants’, as well as from the king of Belamerin, with 80,000 men, all of which amount to the considerable figure of 530,000 men-at-arms (Martorell, de Galba 1969, chap. 321, II, p. 297). Later on, the people under the orders of Tirant fought in seven battles, the figures for which are also provided: they amount to 79,000 men, who oppose 90,000 enemies (Martorell, de Galba 1969, chap. 386, I, p. 405, and chap. 387, II, p. 406). When, some time afterwards, Constantinople requires new reinforcements, the ambassador Melquisedec ensures that ‘Tirant can take back from the Barbary two hundred and fifty thousand combatants’ and, indeed, the military forces he gathers in Contestina amount to 214,000 men (Martorell, de Galba 1969, chap. 401, II, p. 427).

Although it is possible that the intervention of Martí Joan de Galba is behind the latter figures—a handy argument we always resort to when something is amiss about the second section of the Tirant—, these large figures are not uncommon in the work of medieval chroniclers of the highest reputation. According to the Byzantine Chalcondyles, a contemporary of both Martorell and the events he recounts, the Turks seizing Constantinople in 1453 were 400,000. Although it is probably an exaggeration, this detail allows us to consider that the Tirant lo Blanc falls within a respectable range of moderation for a novelist, who is usually granted certain freedoms

64 ‘e lo menys que cascun d’aquests portava eren quaranta-cinc milia combatents’ (Martorell, de Galba 1969, chap. 390, II, p. 412).

that should be forbidden to historians. We have seen that, in the first campaign of Tirant for the Greek Empire, the maximum military forces were 183,000 men for the Christian army and 239,000 for the Turkish; and we mentioned above that these figures could lead us to suspect that Joanot Martorell was exaggerating. However, we all know that Bernard Desclot is unanimously considered a truthful, objective, moderate and rigorous chronicler. When Desclot recounts an event he himself intensely experienced, the invasion of Catalonia by Philip the Bold of France in 1285, he first claims that the invading host was composed of 17,000 horsemen, 18,000 crossbowmen and 100,000 foot soldiers *opus* (‘or more’). Then he lists the French host sorted according to its seven-level hierarchy, together with its impedimenta, and the total amount reaches 248,700 men-at-arms (*Desclot* 1950, chaps. 131 and 137, pp. 64 and 116-118, and note 12). It is almost the same as that of the Turkish army in the *Tirant*. Desclot, eyewitness of the campaign and regarded as an exemplary chronicler, provides that figure. Will we dare to blame Martorell for giving another slightly lower figure in the pages of a novel? It is worth pointing out that the trustworthy Desclot probably exaggerated; and Ferdinand Lot, also exaggerating, although with the opposite purpose, claims that in the invasion of Catalonia by Philip the Bold, the French contingent was composed of 12,000 combatants (*Lot* 1946, I, p. 240) that is, a five percent of the number provided by Desclot. If chroniclers as Desclot and Chalcondyles have exaggerated so much in detailing the size of military forces they knew first-hand, the *Tirant lo Blanc* stands thus justified in case anybody accuses it of implausibility in the numbers of combatants. Don Felixmarte de Hircania, the hero of a knight-errantry tale that Cervantes mocked, once routed, on his own, an army of one million seven hundred thousand combatants. That is indeed exaggerating. But such a thing could not occur in the *Tirant lo Blanc*, a novel in which ‘the knights eat and sleep and die in their beds, and make their wills before they die, and other things as well that are left out of all other books of the kind’.

---

66 ‘comen los caballeros, y duermen y mueren en sus camas, y hacen testamento antes de su muerte, con otras cosas de que todos los demás libros deste género carecen’.
REFERÈNCIES BIBLIOGRÀFiques


de RIQUEr, Martí, 1968. L’arnès del cavaller, armes i armadures catalanes medievals, Esplugues de Llobregat-Barcelona.


EIXIMENIS, Francesc, 1484. Dotzè del Chrestià o Regiment de prínceps e de comunitats, Biblioteca de Catalunya, Barcelona.


LOT, Ferdinand, 1946. L’art militaire et les armées au Moyen Age, II, París.


MONREAL y TEJADA, Luis, 1971. Ingenieria militar en las crónicas catalanas, discurs de recepció en la Real Acadèmia de Bones Lletres de Barcelona, gener.

MUNTANER, Ramon, 1951. Crònica, Barcelona: Col·lecció Popular Barcino, VI.