

UNIwersYTET GDANSKI

PROJEKT LATEX

Przykładowa książka

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Chapter 1

First Crusade

... and the people respond as with one voice:
Dues vult!
God wills it!

-Pope Urban II

1.1 General Info

List of events:

1. Council of Clermont
 - Recruitment
2. People's Crusade
 - Attacks on Jews in the Rhineland
3. Princes' Crusade [1]
 - Siege of Nicaea
 - Battle of Dorylaeum
 - Siege of Antioch
 - Continued march to Jerusalem
 - Siege of Jerusalem
 - Establishment of the Kingdom of Jerusalem
 - Battle of Ascalon
4. Crusade of 1101

Table 1.1: Statistics for the First Crusade

Beligerents	
Crusaders	Islam Forces
Kingdom of France Blois Toulouse Boulogne Flanders Kingdom of England Normandy Le Puy-en-Velay Vermandois Brittany Republic of Genoa Armenian Cilicia County of Sicily Taranto Roman (Byzantine) Empire	Seljuk Sultanate Danishmends Fatimid Caliphate Abbasid Caliphate
Commanders and leaders	
Crusaders	Islam Forces
German Contingent: Godfrey of Bouillon Baldwin of Boulogne Southern French Contingent: Raymond IV of Toulouse Adhemar of Le Puy Hugh I of Vermandois Northern French Contingent: Stephen II of Blois Robert II of Flanders Robert II of Normandy Norman-Italian Contingent: Bohemond of Taranto Tancred of Hauteville Eastern Leaders: Alexios I Komnenos Tatikios Manuel Boutoumites	Kilij Arslan I Yaghi-Siyan Kerbogha Duqaq Fakhr al-Mulk Radwan Ghazi ibn Danishmend Iftikhar ad-Daula Al-Afdal Shahanshah

Commanders and leaders	
Crusaders	Islam Forces
Constantine of Armenia Others: Guglielmo Embriaco	
Strength	
Crusaders	Islam Forces
Crusaders: 35,000 men 30,000 infantry 5,000 cavalry knights Byzantines: 2,000 men	Unknown
Casualties and losses	
Crusaders	Islam Forces
Moderate to High (estimates vary)	High

[3]



Figure 1.1: A drawing of a crusader

Chapter 2

Second Crusade

Si Vis Pacem Para Bellum!

-Unknown

2.1 General Info

Important facts:

1. The fall of Edessa
2. Saint Bernard of Clairvaux
3. Wendish Crusade
4. Reconquista and the fall of Lisbon
5. Crusade in the East [7]
 - Routes:
 - German route
 - French route
 - Journey to Jerusalem
 - Council of Acre
 - Siege of Damascus

Figure 2.1: A drawing of Raymond of Poitiers welcoming Louis VII in Antioch



Table 2.1: Statistics for the Second Crusade

Country List			
Belligerents		Commanders and leaders	
Crusaders	Islam Forces	Crusaders	Islam Forces
Kingdom of Jerusalem	Seljuq Sultanate	Melisende of Jerusalem	Mesud I
County of Tripoli	Emirate of Zengids	Baldwin III of Jerusalem	Imad ad-Din Zengi
Principality of Antioch	Abbasid Caliphate	Raymond II of Tripoli	Nur ad-Din
Knights Templar	Fatimid Caliphate	Raymond of Poitiers	Saif ad-Din Ghazi I
Knights Hospitaller	Nizari Ismailis of Syria	Louis VII of France	Al-Muqtafi
Canons Regular of the Holy Sepulchre	Almoravids	Thoros II of Armenia	Al-Hafiz
Knights of Saint Lazarus	Taifa of Valencia	Raynald of Chtillon	Tashfin ibn Ali
Kingdom of France	Taifa of Murcia	Theodwin	Ibrahim ibn Tashfin
Holy Roman Empire	Obotrite Confederacy	Afonso I of Portugal	Ishaq ibn Ali
Byzantine Empire	Liutizian Confederacy	Alfonso VII of Len and Castile	Abd al-Mu'min
Kingdom of England	Duchy of Pomerania	Ramon Berenguer IV	Niklot
Kingdom of Sicily		Conrad III of Germany	Pribislav of Wagria
Papal States		Ottokar III of Styria	Ratibor I of Pomerania
Kingdom of Poland		Stephen, King of England	
Strength			
Germans: 20,000 men	French: 15,000 men		

Chapter 3

Third Crusade

Justitia suum cuique distribuit

-Unknown

3.1 General Info

List of events:

1. Barbarossa's crusade [6]
2. Departure
 - (a) King Richard Departure
 - (b) King Philip's Departure
3. Siege of Acre
4. Battle of Arsuf
5. Advances on Jerusalem, regicide, and negotiations

Table 3.1: Statistics for the Third Crusade

Third Crusade				
Belligerents		Commanders and leaders		Strength
Crusaders	Islam Forces	Crusaders	Islam Forces	Crusaders
Kingdom of England	Ayyubid Sultanate	King Richard the Lionheart	Sultan Saladin	English: 8,000 men
Kingdom of France	Sultanate of Egypt	King Philip Augustus	Al-Muzaffar Umar	French: 2,000 men
Duchy of Burgundy	Emirate of Damascus	Duke Hugh III of Burgundy	Al-Adil I	Germans: 15,000-100,000 men
County of Blois	Emirate of Hama	Count Theobald V of Blois	Al-Afdal	Hungarians: 2,000 men
Holy Roman Empire	Emirate of Mesopotamia	Count Henry II of Champagne	Robert of St. Albans	
Duchy of Swabia	Sultanate of Rum	Guy of Lusignan		
Duchy of Austria	Nizari Ismaili state			

Figure 3.1: A drawing of The Siege of Acre



Chapter 4

Additional Information

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4.1 Trebuchet

Mathematics behind Trebuchet:

The coordinates of the counterweight M are given as:

$$x_M = -L_1 \sin \theta - L_4 \sin(-\theta - \beta)$$

$$x_M = -L_1 \sin \theta + L_4 \sin(\theta + \beta)$$

$$y_M = L_1 \cos \theta - L_4 \cos(-\theta - \beta)$$

$$y_M = L_1 \sin \theta - L_4 \sin(\theta + \beta)$$

The acceleration of the counterweight M is:

$$a_M x = \frac{d^2 x_M}{dt^2}$$

$$a_M y = \frac{d^2 y_M}{dt^2}$$

By Newton's Second Law,

$$\Sigma \bar{F}_x = M(\bar{a}_M x)$$

$$\Sigma \bar{F}_y = M(\bar{a}_M y)$$

where M is the mass of the counterweight.

Therefore,

$$T_2 \sin(-\theta - \beta) = M a_M x$$

$$-T_2 \sin(\theta + \beta) = M a_M x$$

$$T_2 \cos(-\theta - \beta) - M_g = M a_M y$$

$$T_2 \cos(\theta + \beta) - M_g = M a_M y$$

[2]

4.2 Mathematics

4.2.1 The Callan-Symanzik equation

$$[M \frac{\partial}{\partial M} + \beta(g) \frac{\partial}{\partial g} + n\gamma] G^n(x_1, x_2, \dots, x_n; M, g) = 0 \quad (4.1)$$

4.2.2 The minimal surface equation

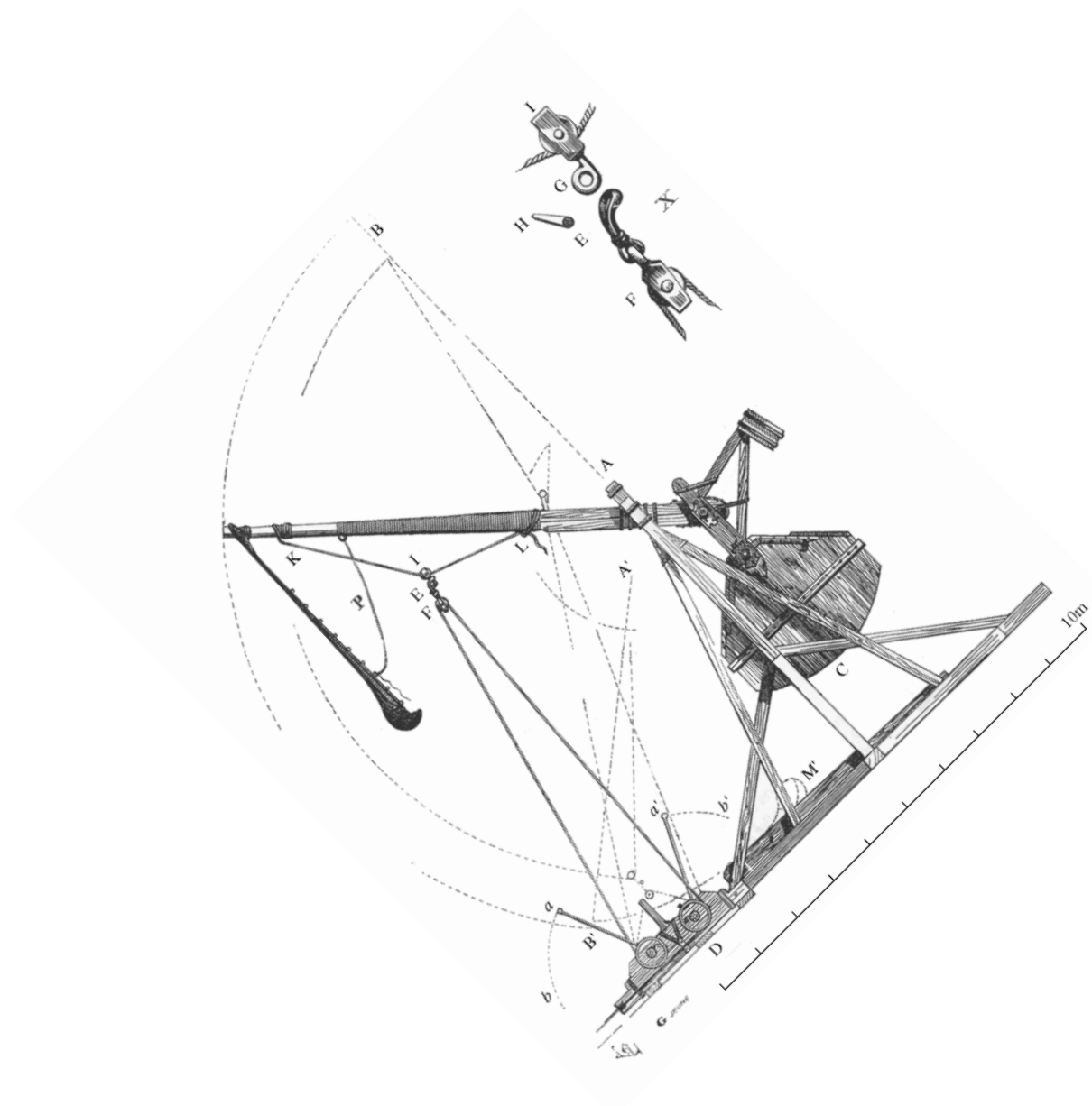
$$A(u) = \int_{\Omega} (1 + |\nabla u|^2)^{\frac{1}{2}} dx_1 \dots dx_n \quad (4.2)$$

4.2.3 Standard model

$$\begin{aligned} \mathcal{L}_S M = & \frac{1}{4} W_{\mu\nu} \cdot W^{\mu\nu} - q \frac{1}{4} B_{\mu\nu} B^{\mu\nu} - \frac{1}{4} G_{\mu\nu}^a G_a^{\mu\nu} \\ & + \bar{L} \gamma^\mu (i \partial_\mu - \frac{1}{2} g \tau \cdot W_\mu - \frac{1}{2} \mu) L \\ & + \bar{R} \gamma^\mu (i \partial_\mu - \frac{1}{2} g' Y B_\mu) R \\ & + \frac{1}{2} |(i \partial_\mu - \frac{1}{2} g \tau \cdot W_\mu - \frac{1}{2} g' Y B_\mu) \phi|^2 V(\phi) \\ & + g'' (\bar{q} \tau^\mu T_a q) G_\mu^a + (G_1 \bar{L} \phi R + G_2 \bar{L} \phi_c R + h.c.) \end{aligned} \quad (4.3)$$

[5]

Figure 4.1: A drawing of a Trebuchet



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