

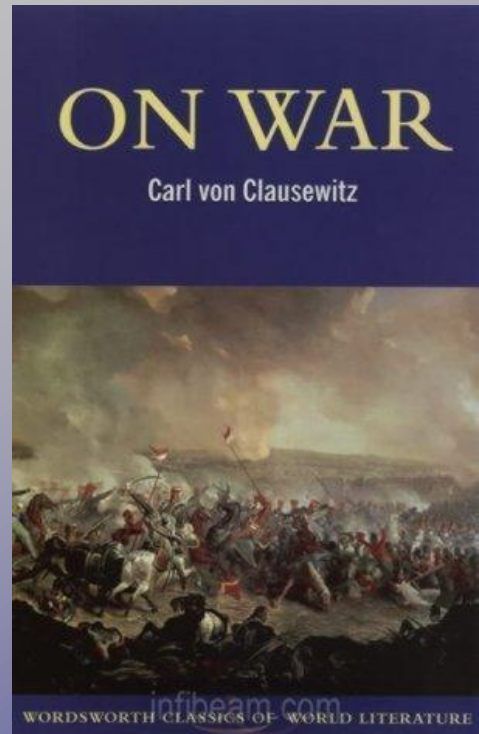
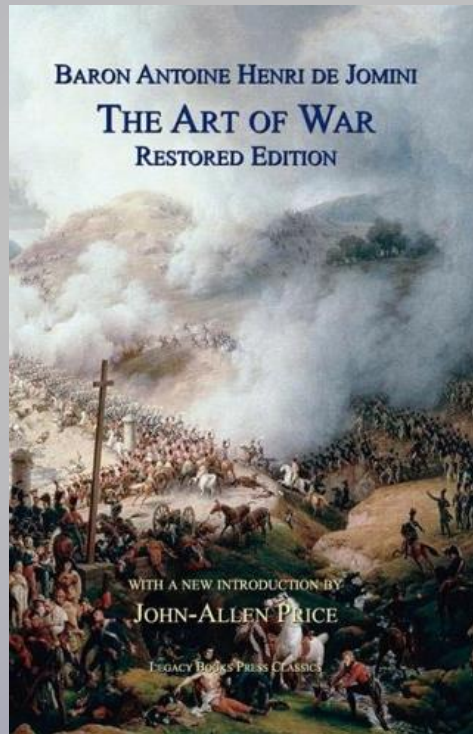
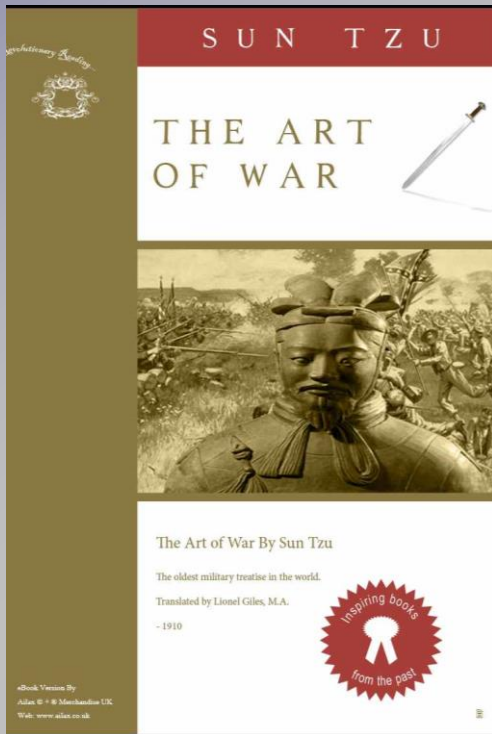
The Revolution of Military Affairs

Infantry — Artillery — Organization — Fortress



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Detail assessment and planning
Waging war
Strategic attack
Disposition of the army
Forces
Weaknesses and strengths
Military maneuvers
Variations and adaptability
Movement and development of troops
Terrain
The nine battlegrounds
Attacking with fire
Intelligence and espionage

Sun
Tzu's
THE
ART
OF
WAR



Passenger 57 (1992)

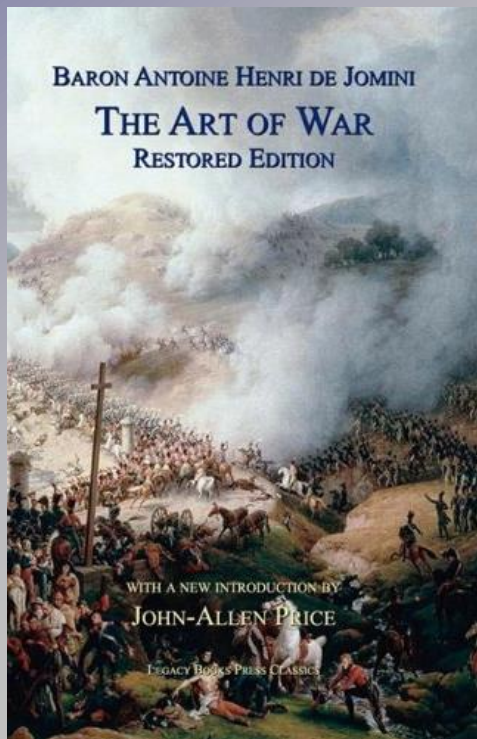


Antoine Henri Jomini

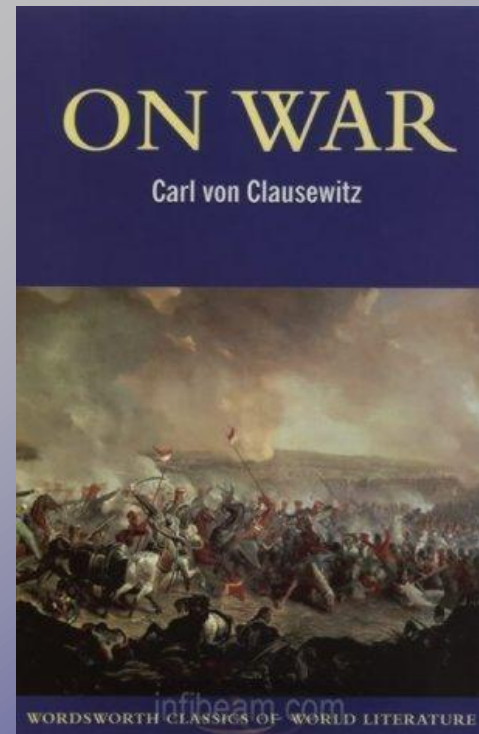
Swiss officer who served as a general in the French and later in the Russian service, and one of the most celebrated writers on the Napoleonic art of war.

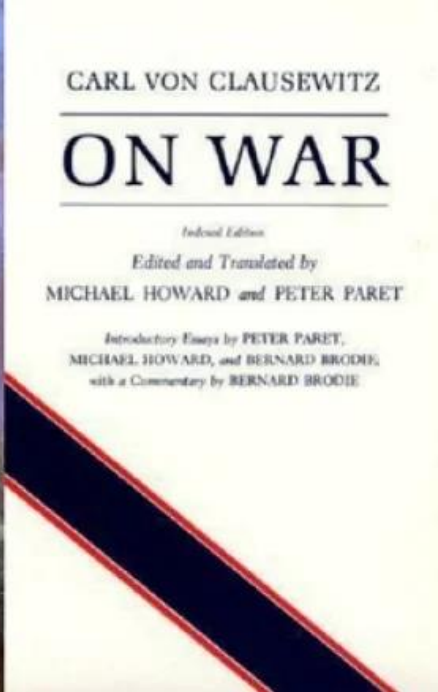
Jomini's ideas were a staple at military academies, the United States Military Academy at West Point being a prominent example; his theories were thought to have affected many officers who later served in the American Civil War.

He may have coined the term logistics in his *Summary of the Art of War* (1838).



the dialectical approach to military analysis
the methods of "critical analysis"
the uses and abuses of historical studies
the nature of the balance-of-power mechanism
the relationship between political objectives and military objectives in war
the asymmetrical relationship between attack and defense
the nature of "military genius"
the "fascinating trinity" of war
philosophical distinctions between "absolute or ideal war," and "real war"
in "real war," the distinctive poles of a) limited war and b) war to "render the enemy helpless"
"war" belongs fundamentally to the social realm, rather than the realms of art or science
"strategy" belongs primarily to the realm of art
"tactics" belongs primarily to the realm of science
the essential unpredictability of war
the "fog of war"
"friction"
strategic and operational "centers of gravity"
the "culminating point of the offensive"
the "culminating point of victory"





**War is the continuation of
politics by other means.**

Carl von Clausewitz

Revolutions in Military Affairs

1 — Infantry

weapons and tactic to defeat cavalry

2 — Artillery (Gunpowder)

successful siege warfare

3 — Military Organization

organization, size, drill, uniforms, rank

4 — Artillery Fortress

trace italienne – reinstate defensive

The Infantry Revolution

1066-1346 – The Age of the Horse

Infantry provided defense for cavalry prior to the attack

Knights had: money for horses, armor, etc
 (40 times the cost of a crossbowman)

time to train

time to “go to war”

mobility (for attack or withdrawal)

protection from fatal injury



The Infantry Revolution

1302 -1400 – The return of the Infantry

Defeat of cavalry attacks by:

archers

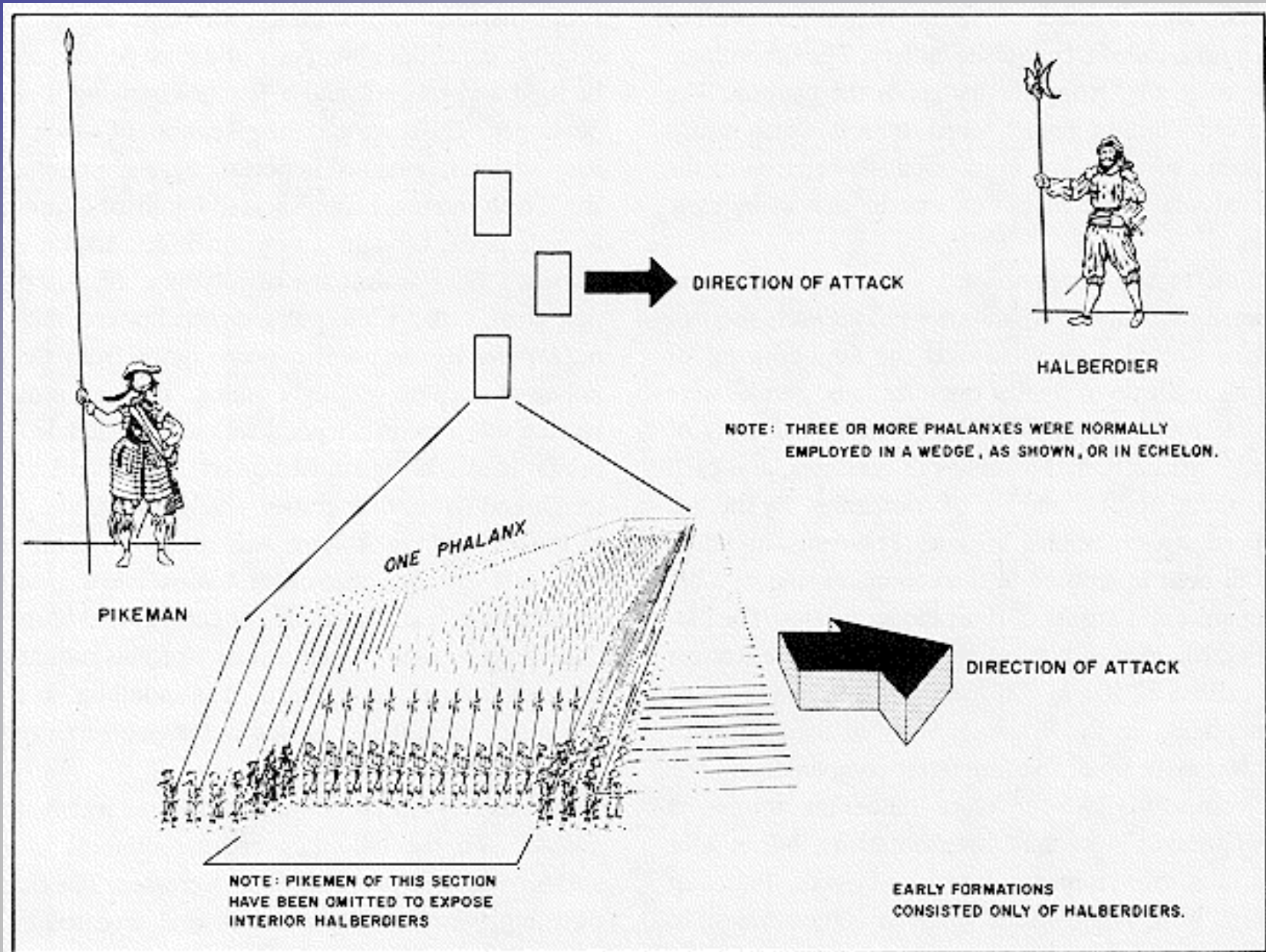
obstacles (holes)

pikes

disciplined formations



The Swiss Phalanx



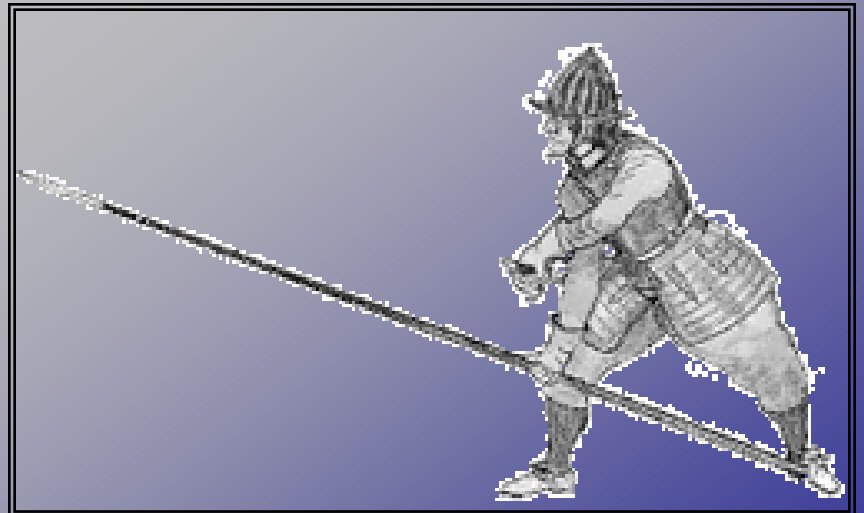
The Infantry Arsenal



Pole Weapons

Missile Weapons

Edged and Blunt Weapons



The Infantry Arsenal

Pole Weapons

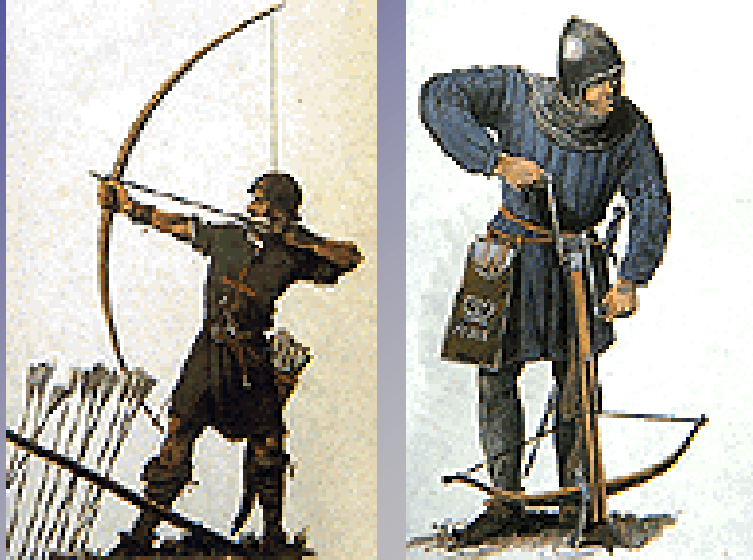


Pike (18 ft.)



Halberd (7 ft.)

The Infantry Arsenal



Missile Weapons

Crossbow

(banned by Church in 1139)

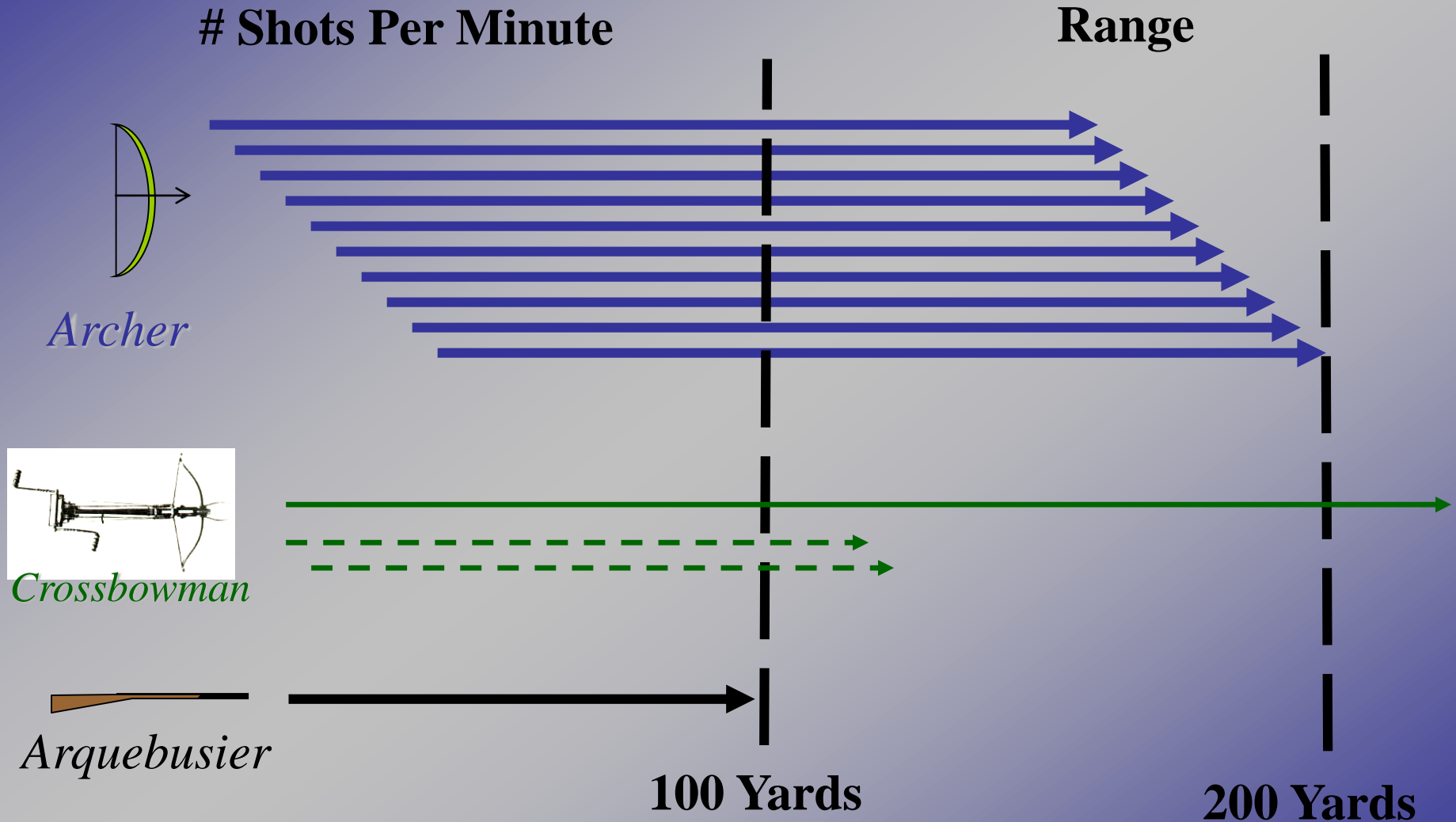
Longbow

Firearms

Arquebus, Matchlock



Revolution in Firepower?

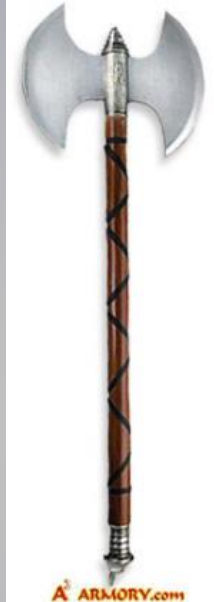


The Infantry Arsenal

Edged and Blunt Weapons

Mace
Axe

Flail
Sword



The Infantry Revolution

Political & Societal Impact

Common infantry over Noble Cavalry

Increased size of armies

Governments' need for financial support (TAXES)

War becomes a deadly business

Infantry weapons defeat armor

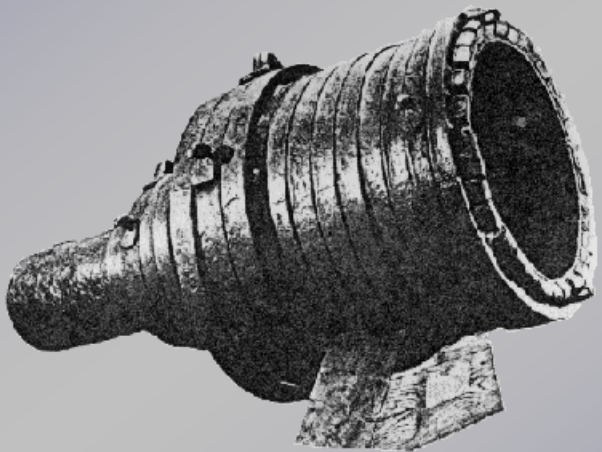
tactics/weapons reduce options to surrender

decline of ransom

The Artillery Revolution

1350-1440 - Gunpowder

Siege Bombard - Field Artillery



The Artillery Revolution

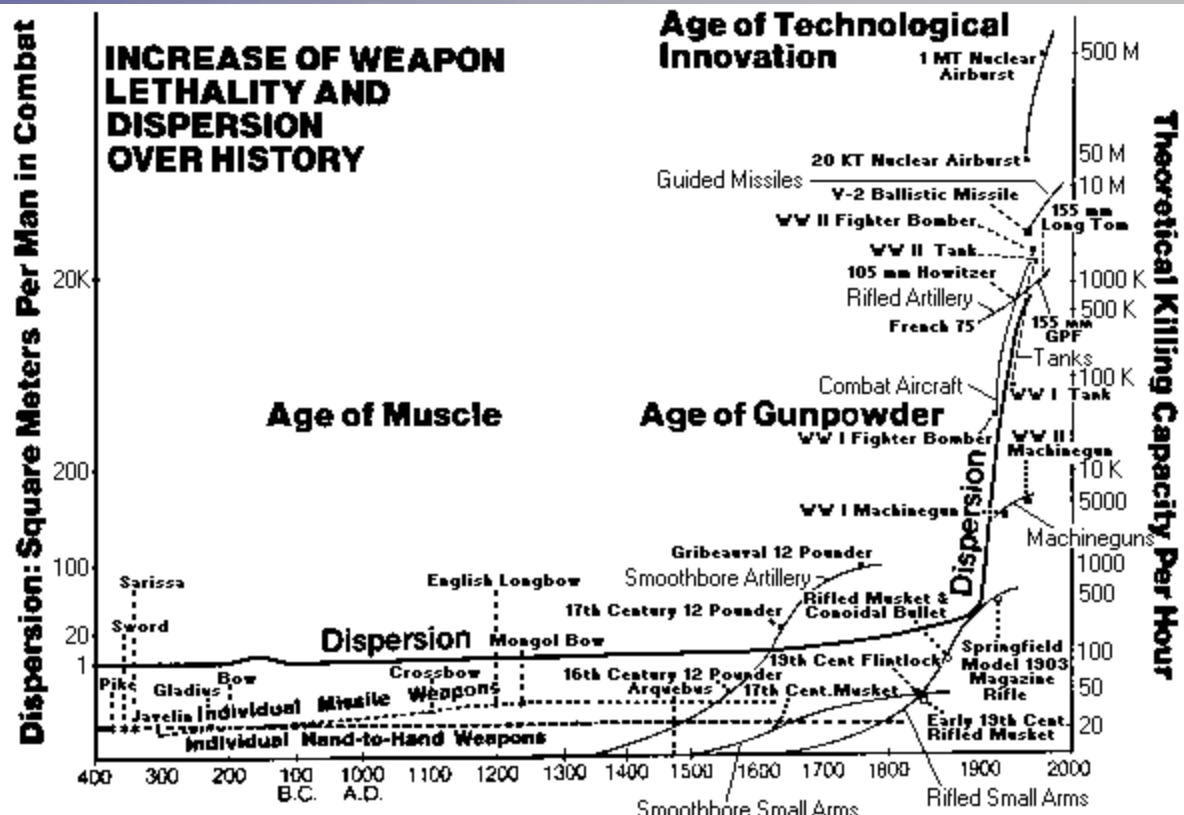
Improvements

Gunpowder manufacture (corning)

Metallurgy

Gun design

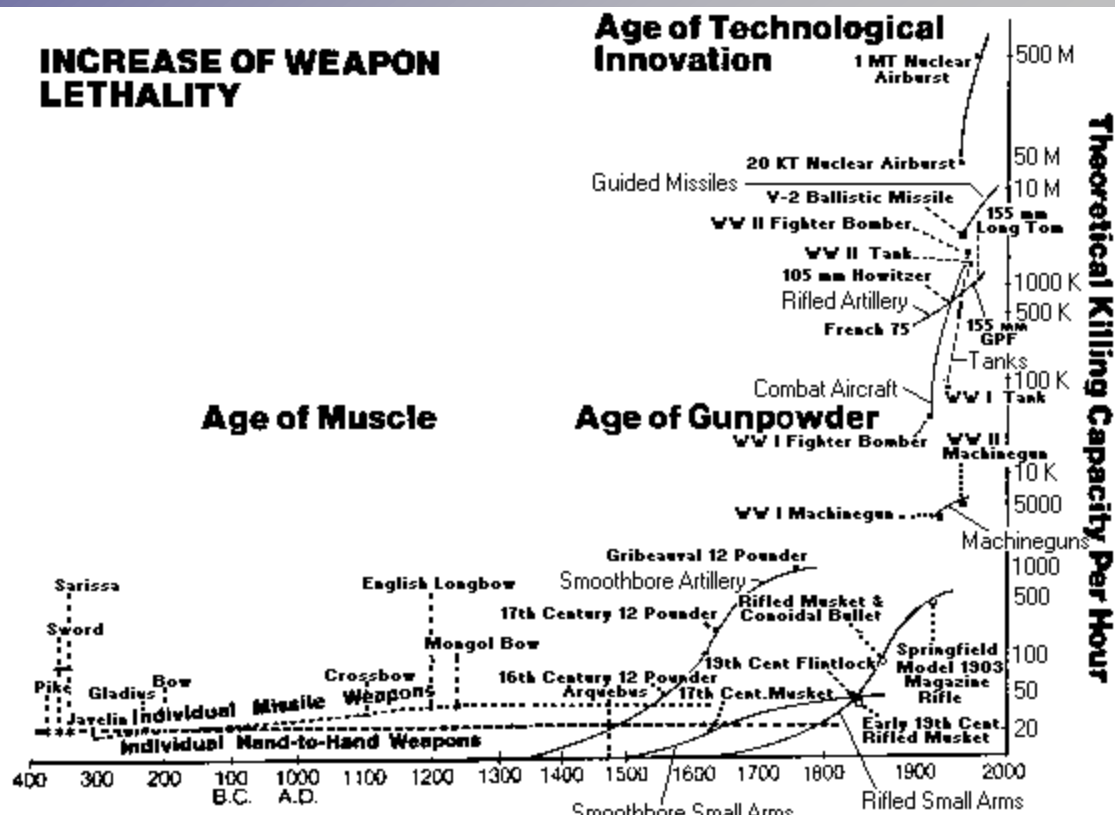
longer barrels, loading methods, 2 wheel carriage



Source: T.N. Dupuy, *The Evolution of Weapons and Warfare*
 (New York: Bobbs-Merrill, 1980), p.288

Figure 1. Relationship of Lethality to Dispersion

INCREASE OF WEAPON LETHALITY



Source: T.N. Dupuy, *The Evolution of Weapons and Warfare*
 (New York: Bobbs-Merrill, 1980), p.288

Lethality

The Organizational Revolution

Increase in training cost/time lead to “fulltime soldiers”

Tax base to pay salaries/purchase equipment

Complex tactics require trained leaders

Creation of rank structure (Colonel, Captain, Lieutenant)

Soldiers of Fortune

Free Companies and Mercenaries

Artillery expenses beyond reach of small states

Development of Uniforms, Flags

British - Red

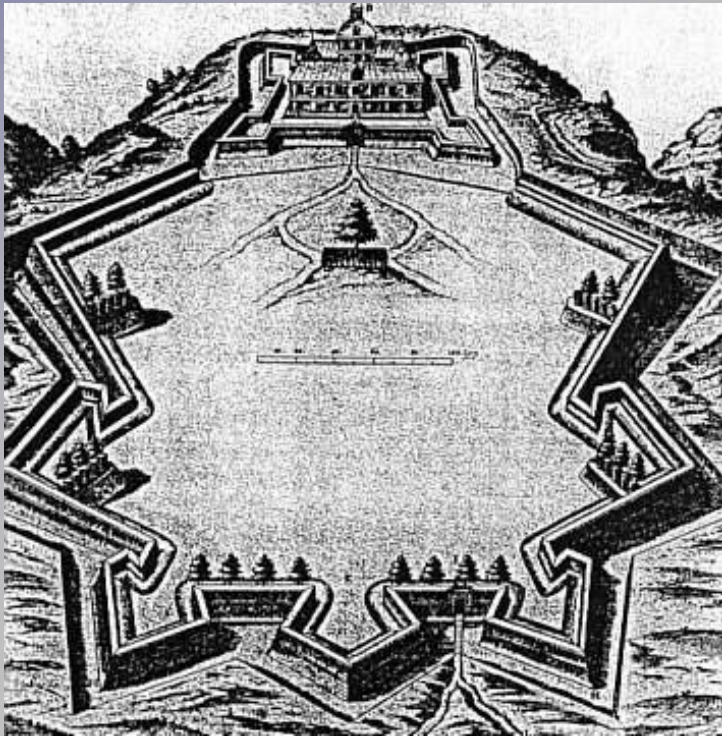
French – White

Austria - Green

The Fortress Revolution

trace italienne

Sunken-profile earthworks — Sharp angles — crossfire



References

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- Geoffrey Parker **The “Military Revolution,” 1560-1660 – a Myth?**
- Michael Roberts **The Military Revolution, 1560-1660**
- R. A. Gabriel & K. S. Metz **A Short History of War**
- W. D. Sirmon **Notes on “Military and Modern Society”**

Pritzker Military Library (www.pritzkermilitarylibrary.org)

A wide variety of podcasts including

Dr. Philip C. Bobbitt - *The Shield of Achilles: War, Peace and the Course of History*





QUESTIONS & COMMENTS

