



Man firing an arquebus

**NDIA International Small Arms Symposium, Exhibition &
Firing Demo
2006**



The First Three Hundred Years Of Small Arms (1326 - 1626)



By Stephen C. Small, Ph.D.



Man firing an arquebus

Agenda



- Background
- East or West?
- Users
- Firearms
- Adaptation
- Battle
- Learning
- Clockwork
- C. 1626
- Historical Lessons?
- Q & A





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Background





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Medieval Europe





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Chronology

00 — 1320 — 1340 — 1360 — 1380 — 1400 — 1420 — 1440 — 1460 — 1480 — 1500

1348-50
Black Plague

Hundred Years War, 1337-1453
1431
Joan of Arc burned

1492
the New World

Popes in Avignon, 1309-1417

Chaucer
(c. 1340-1400)

Lorenzo de' Medici
(1449-92)

Gutenberg
(c. 1400-68)

20-year increments





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Chronology



00 — 1510 — 1520 — 1530 — 1540 — 1550 — 1560 — 1570 — 1580 — 1590 — 1600

1517

Luther: 95 Theses

1543

Copernicus' theory

1545-47

Council of Trent

1588

Def. of Spanish Armada

Henry VIII, r. 1509-47

Elizabeth I, r. 1558-1603

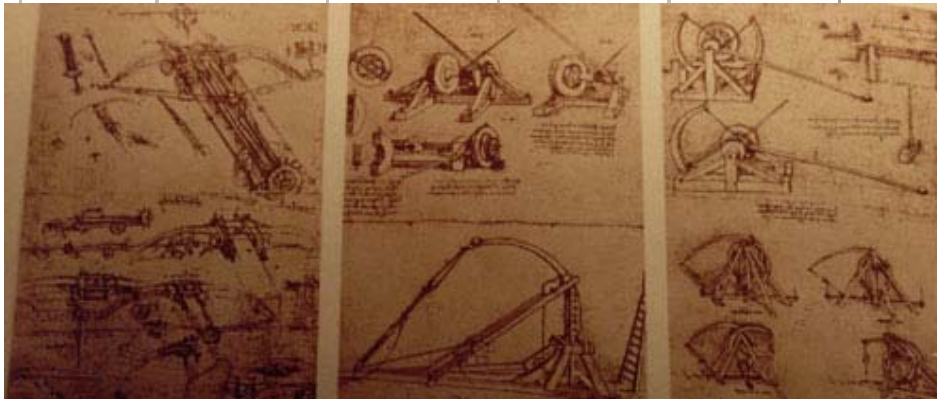
Luther (1483-1546)

Michaelangelo (1475-1564)

Leonardo da Vinci (1452-1519)

Cervantes (1547-1616)

Shakespeare (1564-1616)





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East or West?





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Devil's Powder





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Inventor of the Firearm?

c. 1313



“Devised by the devil himself, a pipe of iron, loaded with powder”





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Users





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User Status at Risk



"To be soaked in one's own sweat and blood, that I call the true bath of honor"

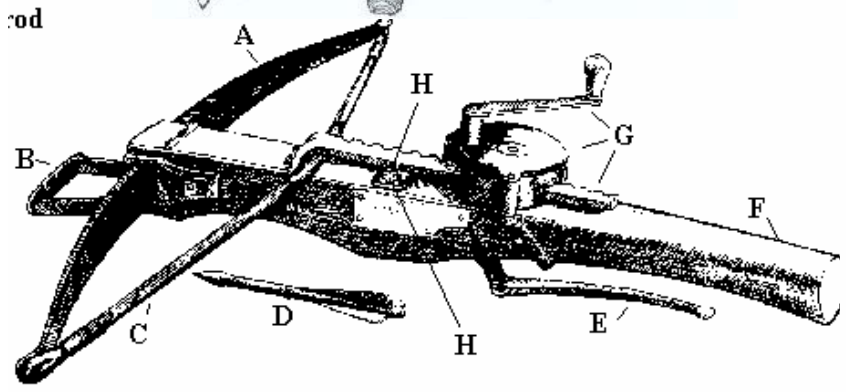
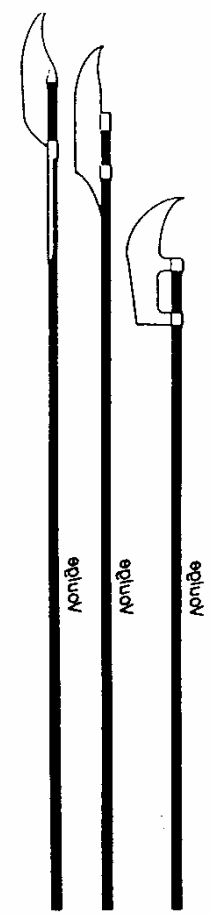
- Henry of Laon





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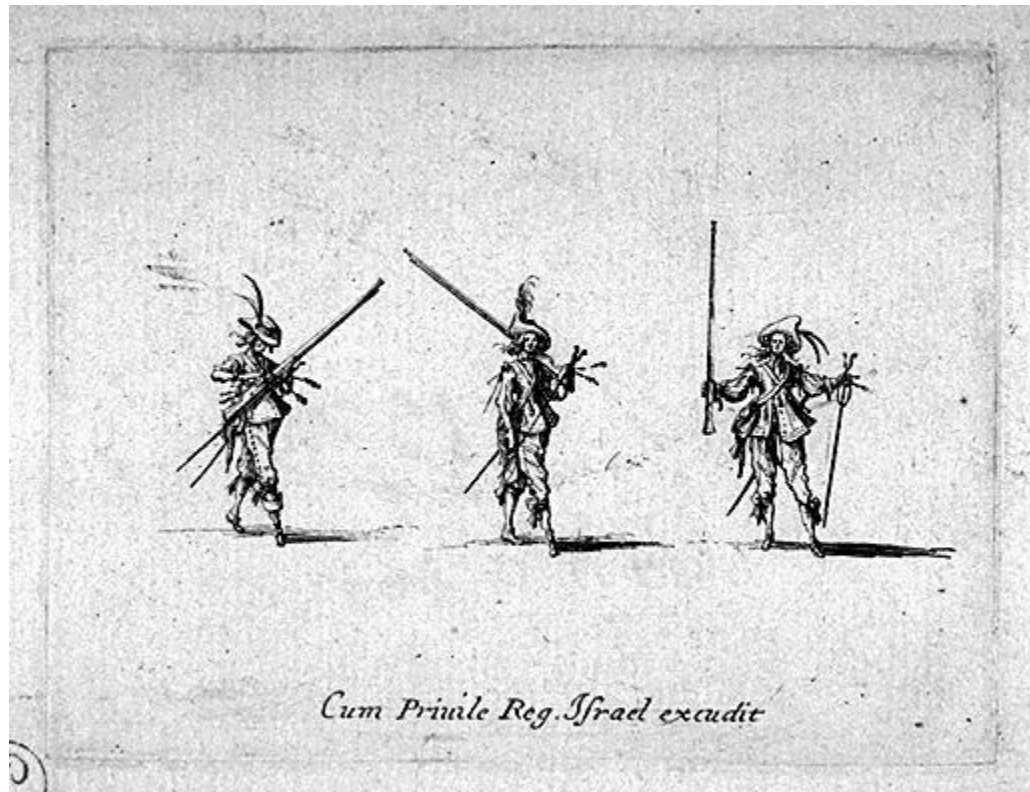
The Hand-Held Weapons





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Firearms



Cum Priuile Reg. Israel excudit



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Medieval Bell Makers





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The First Firearm?

c. 1326





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The First Small Arm System? C. 1350



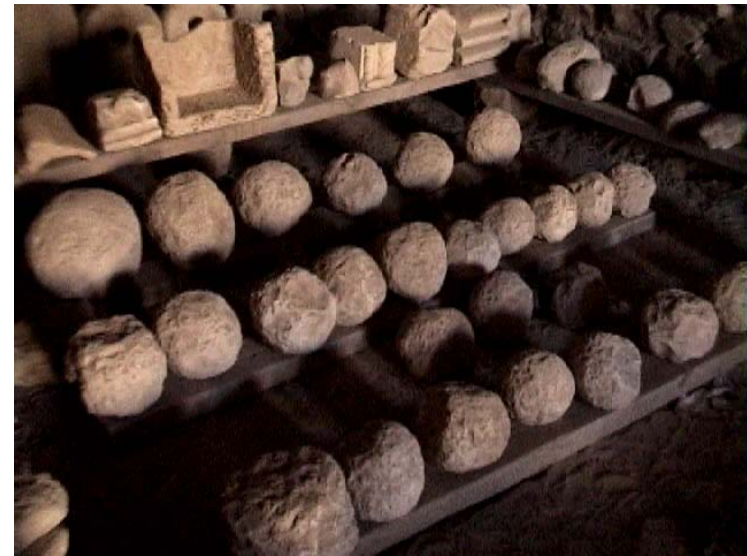
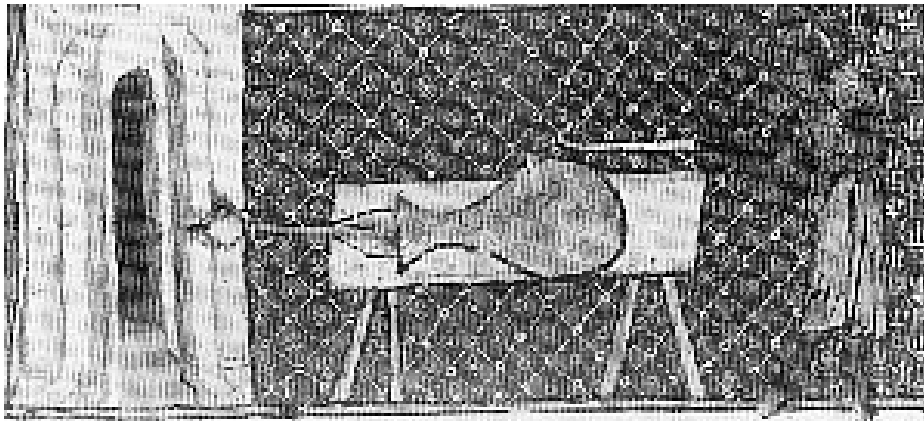
Hand cannon of ca.1350, found near Loshult, Sweden.
National Historical Museum, Stockholm.





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Ammunition

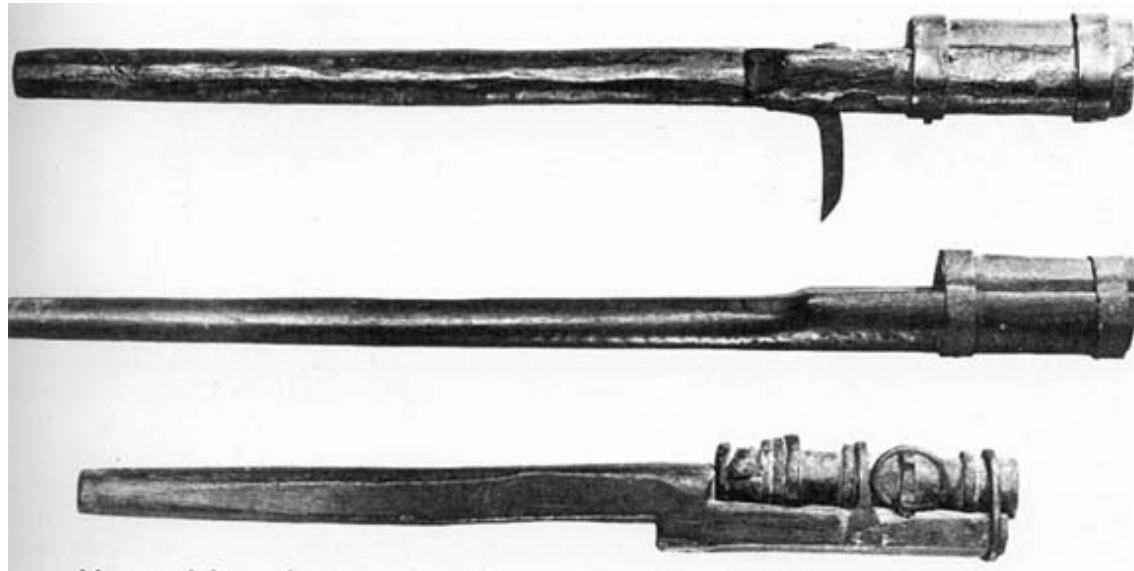


"...a thunderer which shot balls the size of apples"



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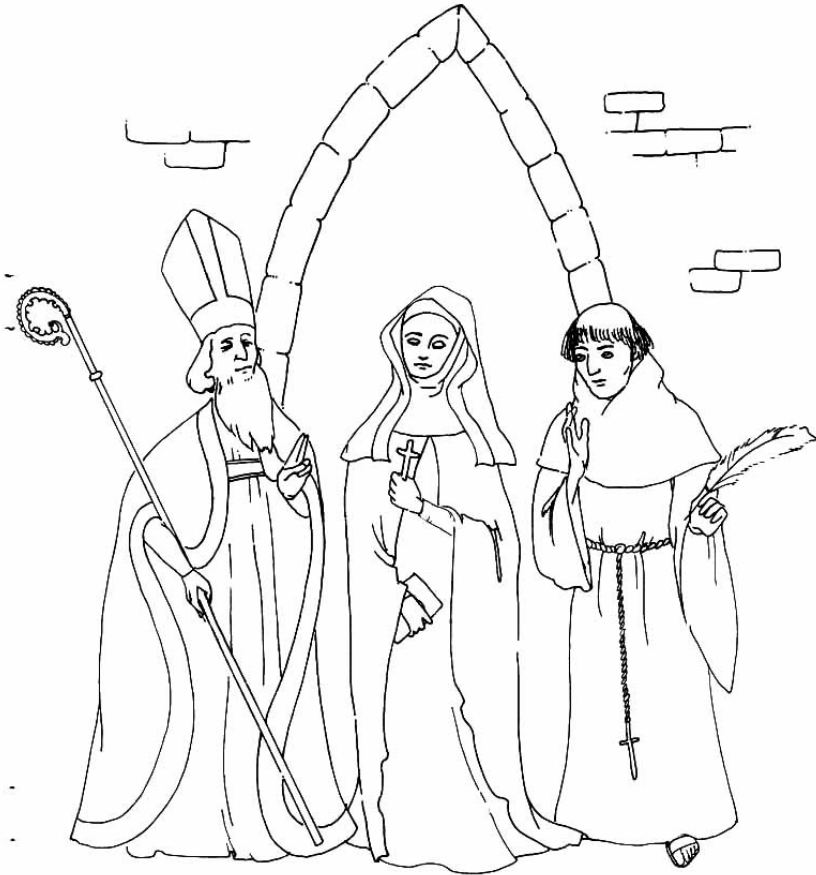
Small Arms Ascendancy





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Religion and Weaponry





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Matchlocks

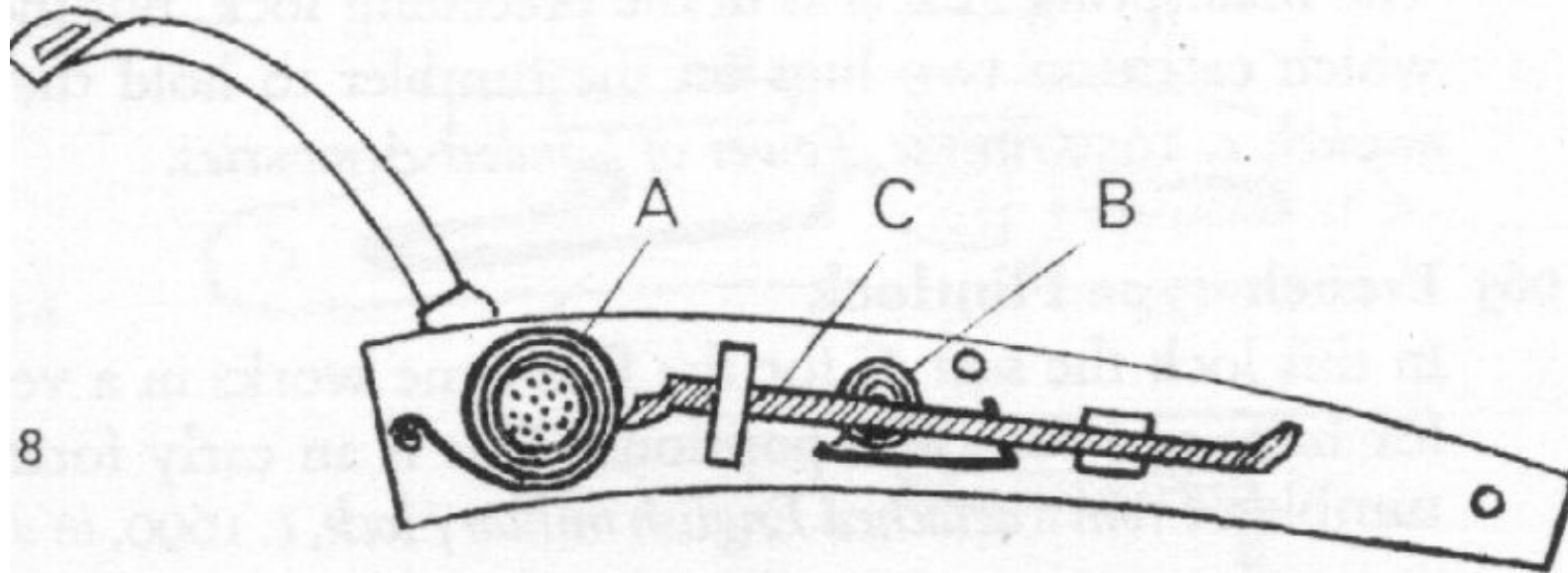




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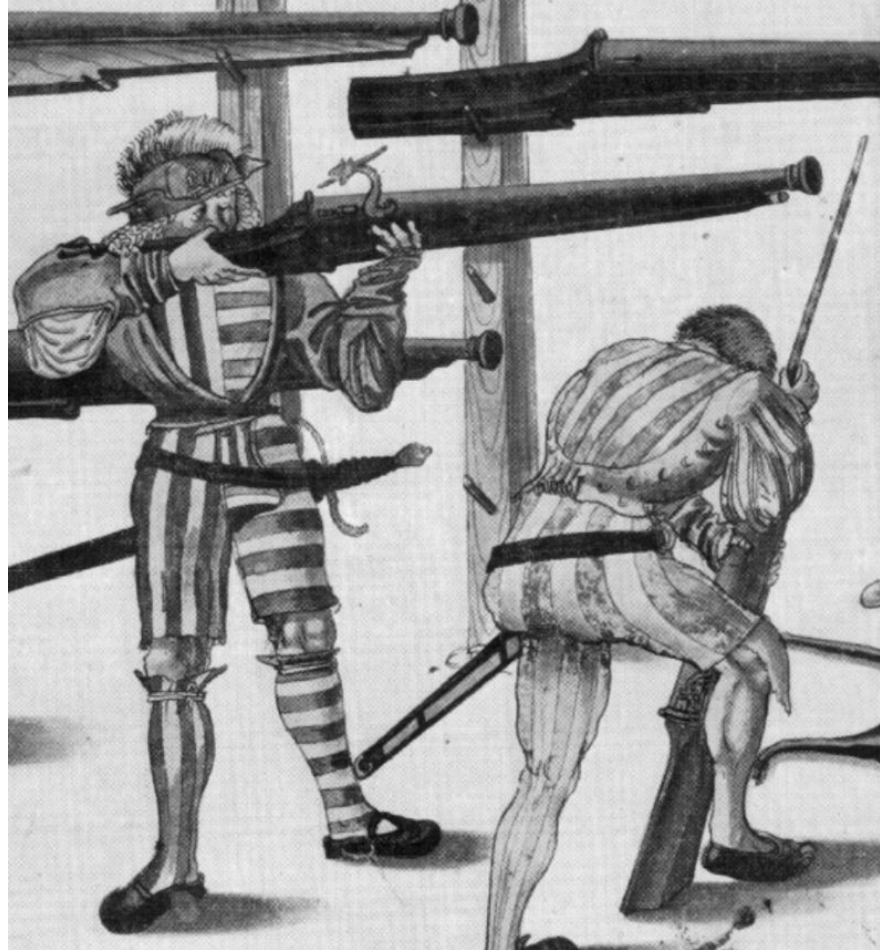
Snapping Matchlock





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Adaptation

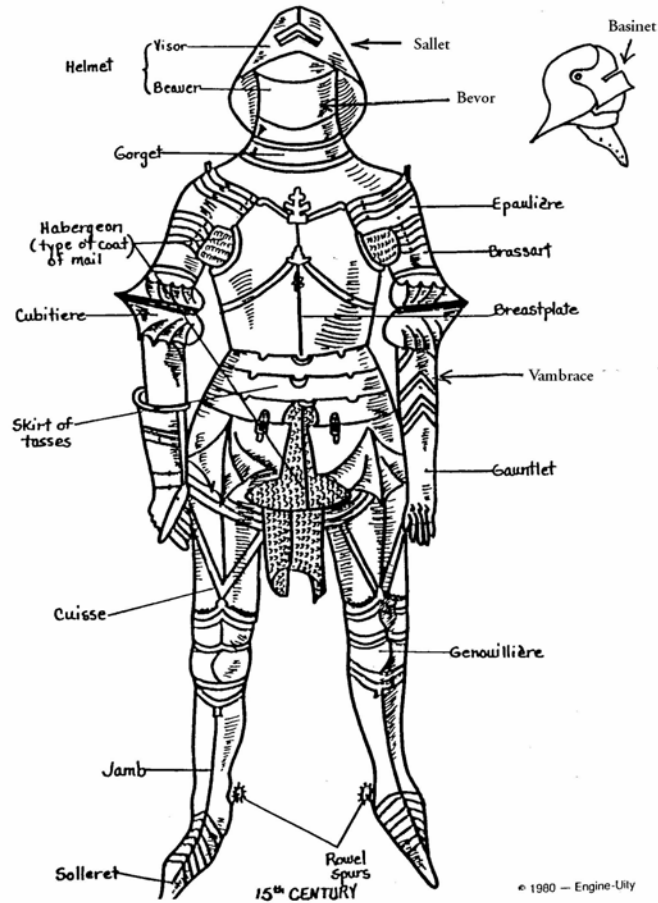




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The Armored User

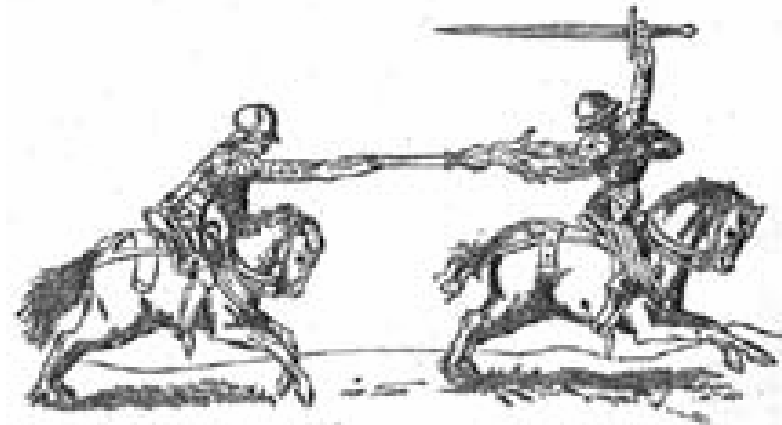
c. 1450





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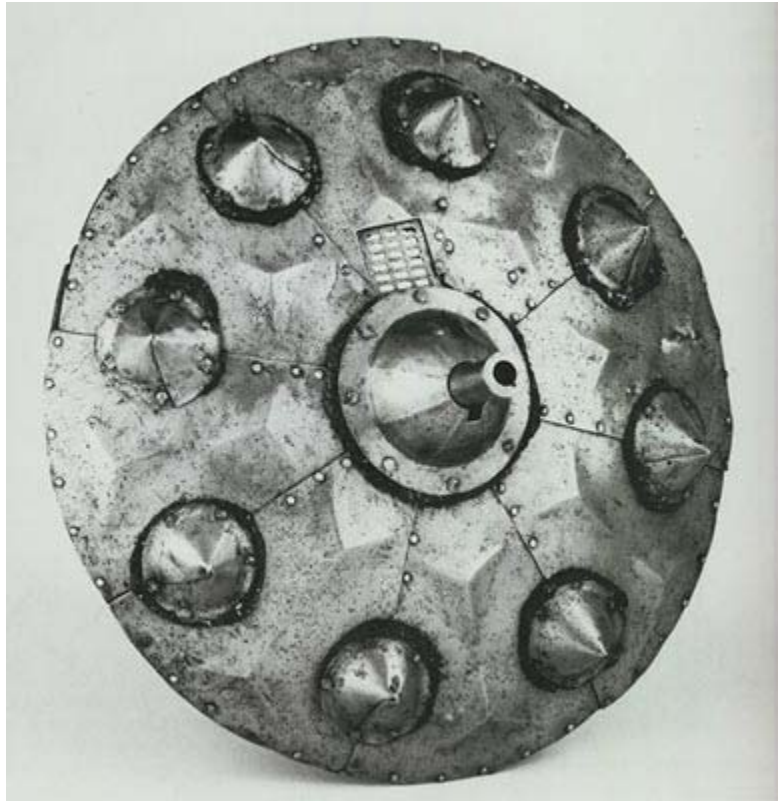
Melding Old and New





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Hybrid Small Arms





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Small Arms in Battle





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Battle of Barnet

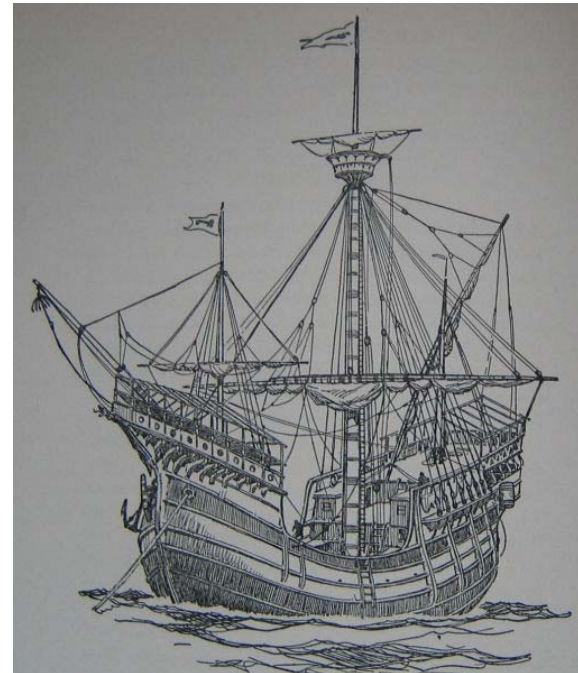
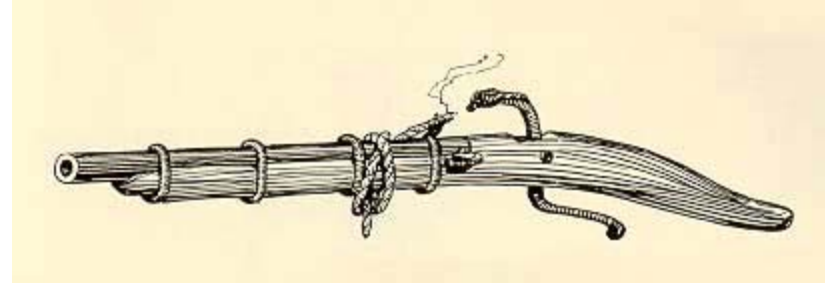
April 1471





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Alfonso de Albuquerque c. 1511





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Battle of Pavia February 1525





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Battle of Pavia

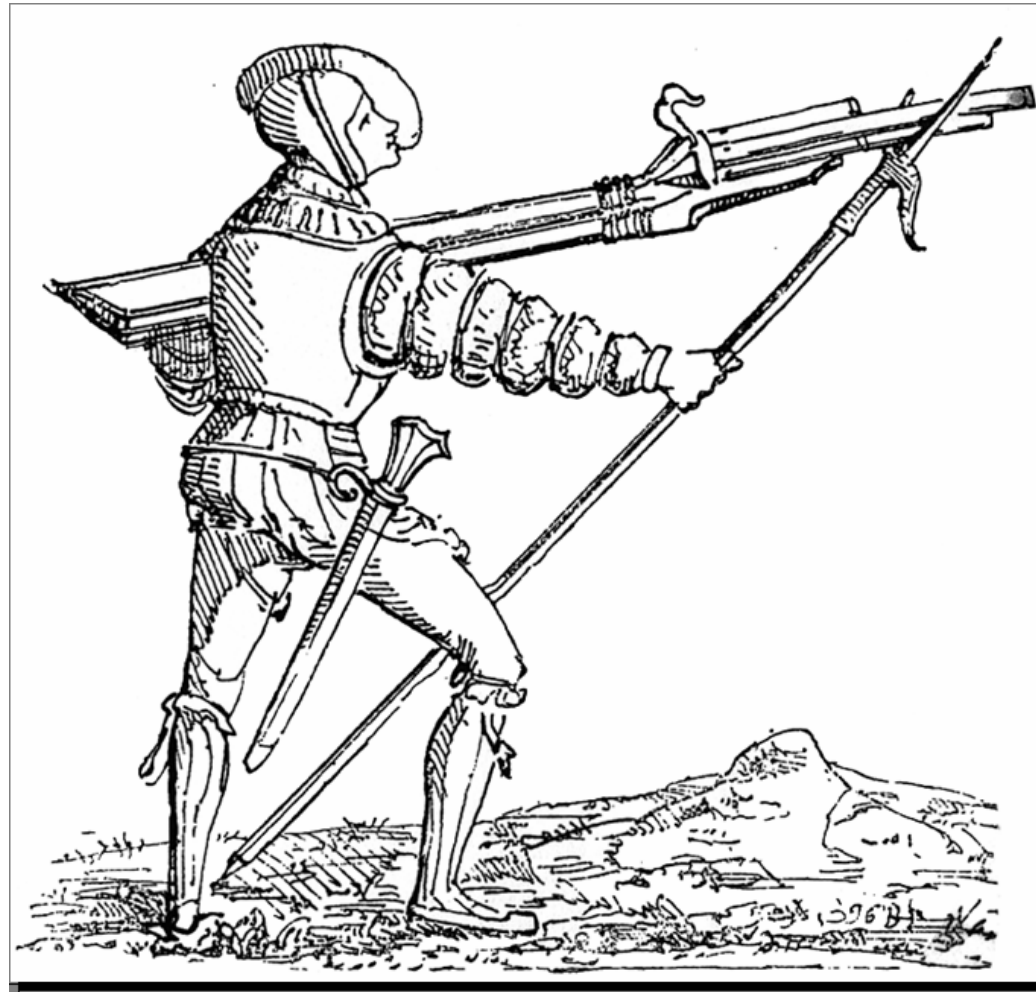
Francis I and his Knights





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Guesswork and Learning

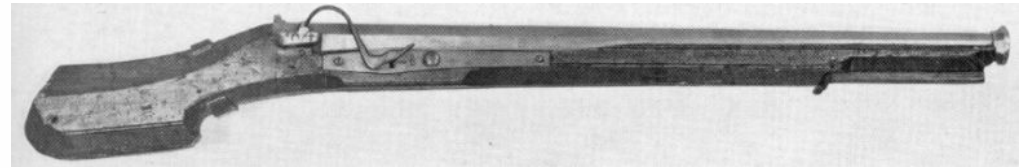
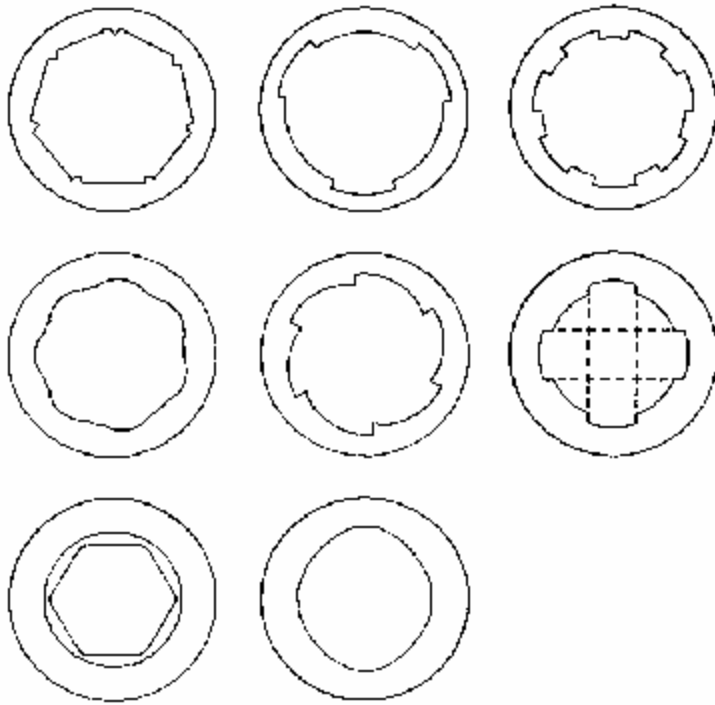




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Rifling

c. 1550

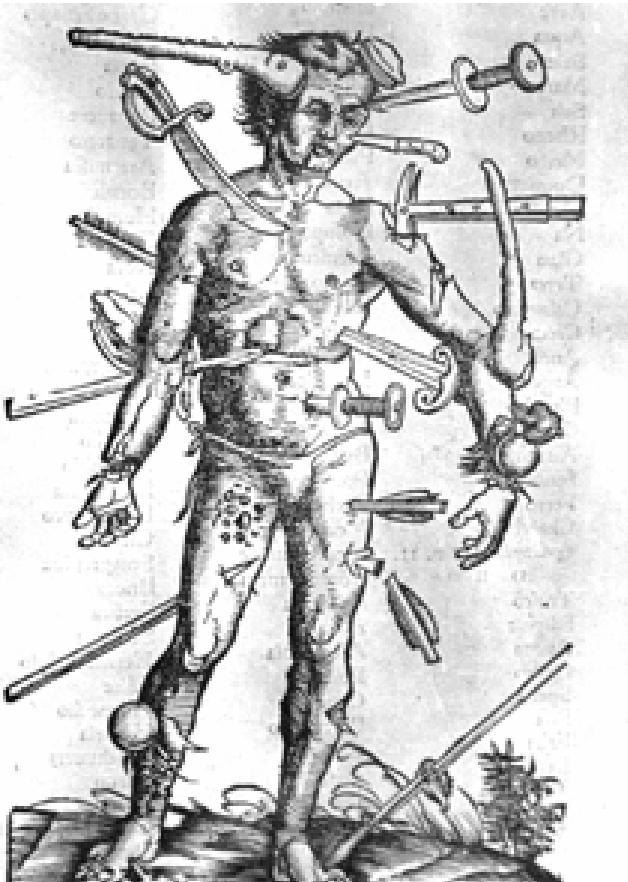




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Weapons Analysis

c.1599



PARADOXES OF DEFENCE,

WHEREIN IS PROVED THE TRVE
grounds of Fight to be in the short auncient weapons,
and that the short Sword hath advantage of the long
Sword or long Rapier. And the weakenesse and imper-
fection of the Rapier-fights displayed. Together with an
Admonition to the noble, auncient, victorious, valiant,
and most braue nation of Englishmen, to beware of false
teachers of Defence, and how they forsake their owne
naturall fights: with a briefe commendation of
the noble science or exercising of
Armes.

By George Silver Gentleman.



LONDON,
Printed for Edward Blount.
1599.



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Small Arms Training





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Clockwork Firearm



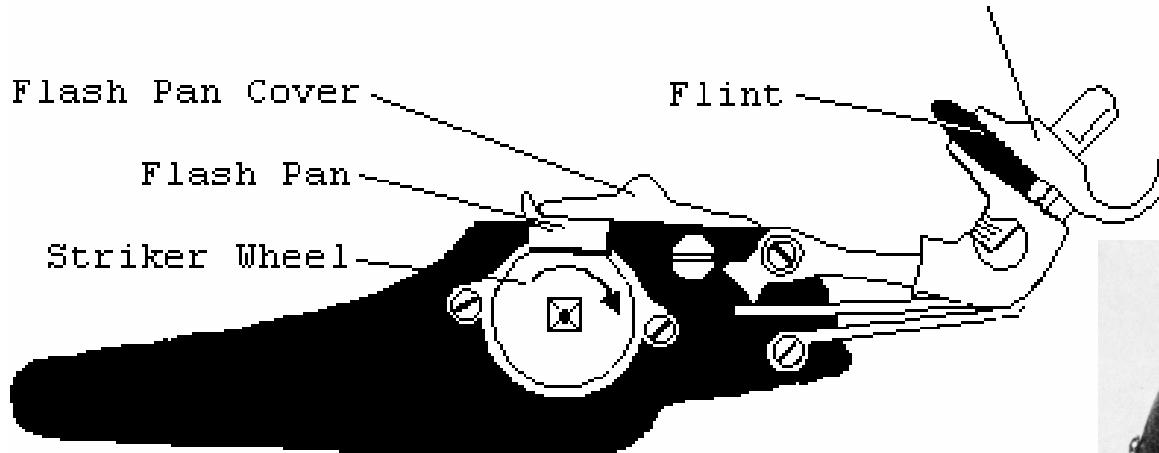
The Striker Arm is at the Safe position

Flash Pan Cover

Flint

Flash Pan

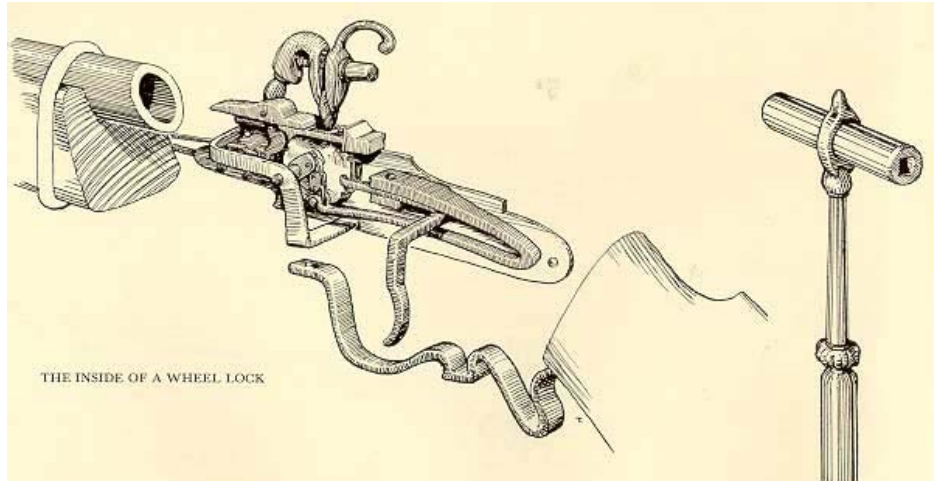
Striker Wheel





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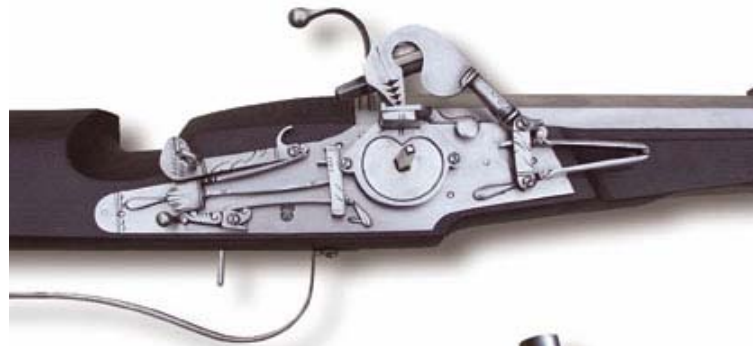
The Wheel-Lock





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German Wheel-lock Anti-Materiel Rifle

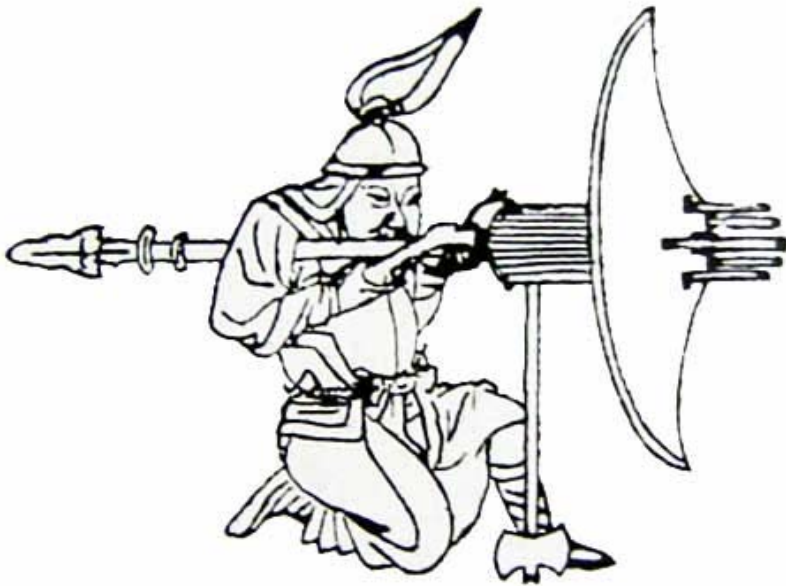


Weight: 41.8 pounds
Length: 7 feet 6 inches
Caliber: 27mm



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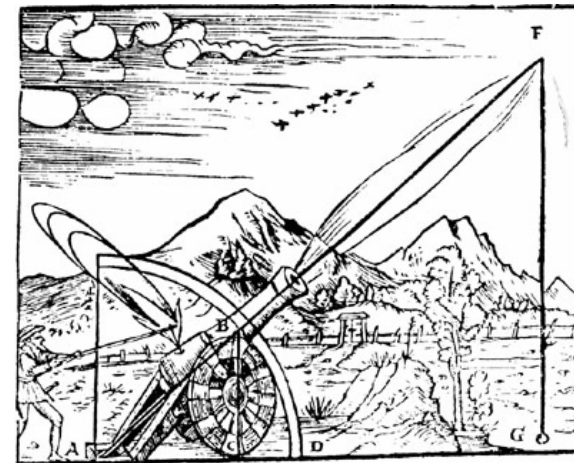
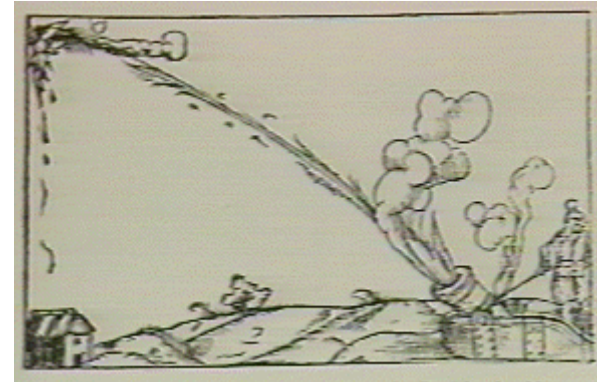
Repeating Firearms





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Professionalism





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Arms-makers Guilds





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c. 1626



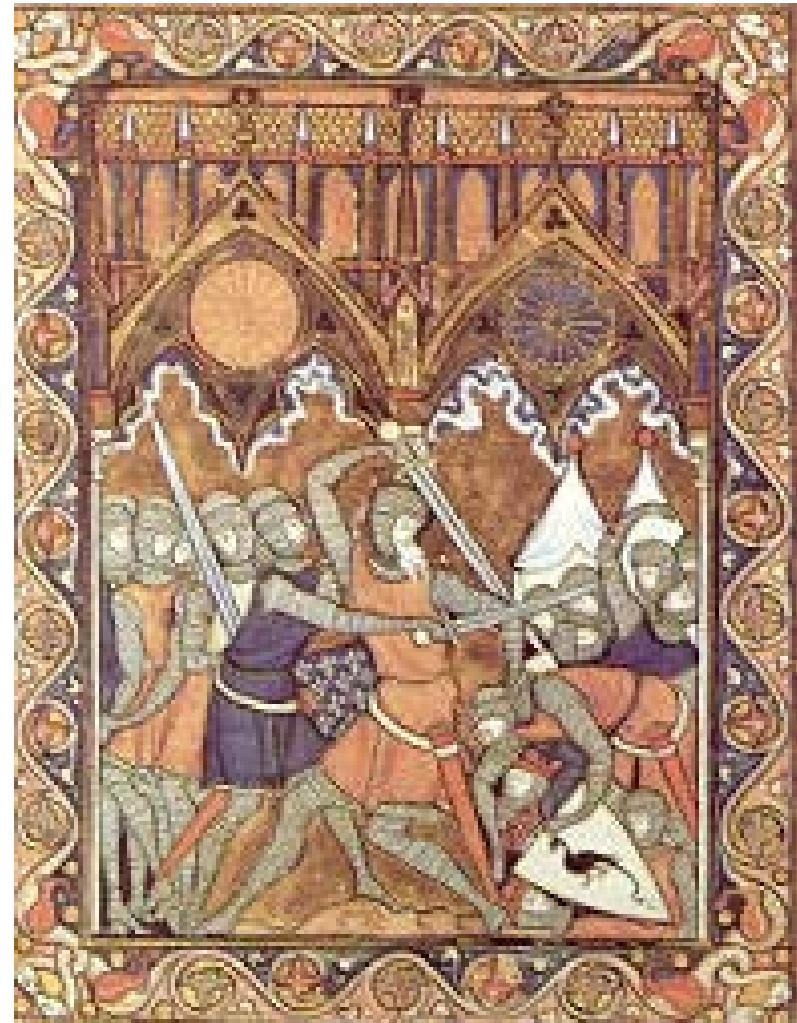


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Historical Lessons?



- Users sometimes got it wrong
- Old technologies give rise to the new
- Legacy systems linger on





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Questions?





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