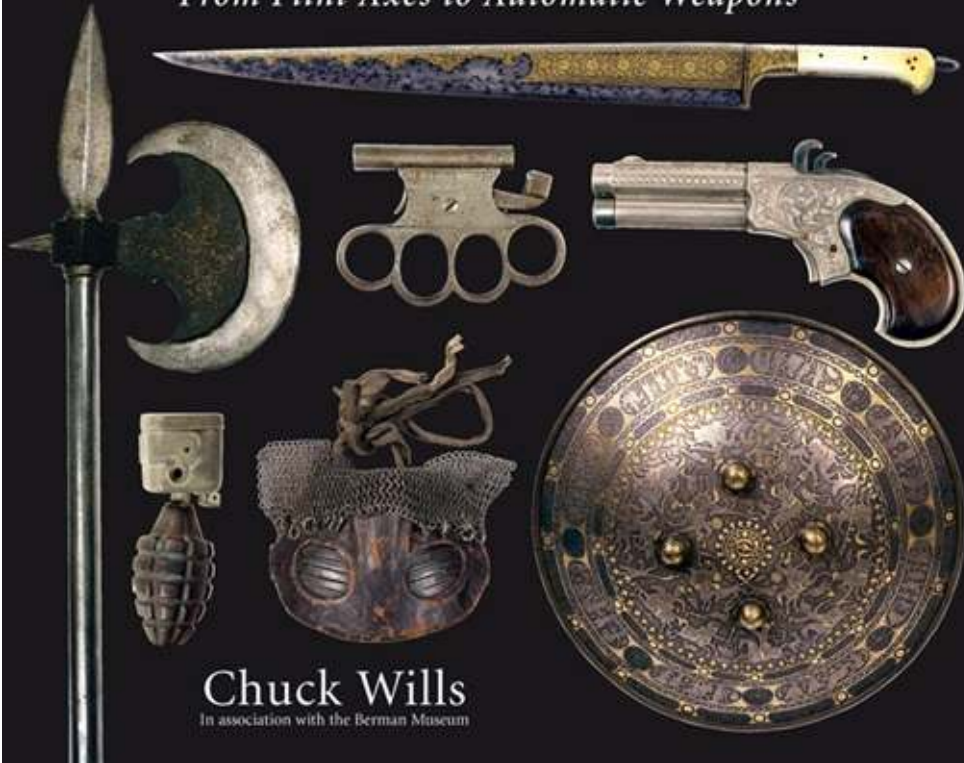




THE ILLUSTRATED ENCYCLOPEDIA OF
WEAPONRY

From Flint Axes to Automatic Weapons



Chuck Wills
In association with the Berman Museum

THE ILLUSTRATED ENCYCLOPEDIA OF WEAPONRY





THE ILLUSTRATED ENCYCLOPEDIA OF
WEAPONRY

FROM FLINT AXES TO AUTOMATIC WEAPONS



CHUCK WILLS

In Association with the Berman Museum of World History



THUNDER BAY
P-R-E-S-S
San Diego, California





Thunder Bay Press

An imprint of the Baker & Taylor Publishing Group

10350 Barnes Canyon Road, San Diego, CA 92121

www.thunderbaybooks.com

Publisher: Peter Norton

Moseley Road Inc.

123, Main Street Irvington, New York 10533

www.moseleyroad.com

Moseley Road

Publisher: Sean Moore

General Manager: Karen Prince

Art Director: Tina Vaughan

Production Director: Adam Moore

Editorial

Lisa Purcell, Jo Weeks, Jill Hamilton, James Harrison,

Frank Ritter, Phil Hunt, Damien Moore

Index: Nancy Ball

Design

Heather McCarry, Mark Johnson-Davies

Photography

Jonathan Conklin, Sean Moore, Assisted by Kira Tidmore

Additional photography by Richard McCaffrey

Picture research

Jo Walton

Berman Museum of World History

Adam Cleveland, Susan Doss, David Ford

North American Compilation Copyright © 2012, Thunder Bay Press

Copyright © 2012, Moseley Road Inc.

Copyright under International, Pan American, and Universal Copyright Conventions. All rights reserved. No part of this book may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying, recording, or by any information storage-and-

retrieval system, without written permission from the copyright holder. Brief passages (not to exceed 1,000 words) may be quoted for reviews.

“Thunder Bay” is a registered trademark of Baker & Taylor. All rights reserved.

All notations of errors or omissions should be addressed to Thunder Bay Press, Editorial Department at the above address. All other correspondence (author inquiries, permissions) concerning the content of this book should be addressed to Moseley Road Inc., info@moseleyroad.com

ISBN-13: 978-1-60710-984-6

Library of Congress Cataloging-in-Publication Data available upon request.

2 3 4 5 16 15 14 13 12







FOREWORD

PART I

PREHISTORIC AND ANCIENT WEAPONS 4500BC–AD100

STONE AND BRONZE

THE FIRST WEAPONS

STONE AND WOOD

FEATURE: ANCIENT METALLURGY

EARLY METAL WEAPONS

BRONZE

IRON

PART II

THE ORIGINS OF WARFARE AD100–1500

BLADES AND ARMOR

CLUBS AND SPEARS

BOWS AND CROSSBOWS

MACES AND FLAILS

FEATURE: THE CRUSADES

POLE ARMS AND AXES

FEATURE: ARMOR

FEATURE: KUKRI

DAGGERS AND FIGHTING KNIVES

FEATURE: JAMBIYA

FEATURE: KATARA

FEATURE: FIGHTING IMPLEMENTS

CLOISONNÉ

THE KRIS

FEATURE: ONE HUNDRED YEARS' WAR

SWORDS

PART III

EARLY MODERN WARFARE 1150–1850

EARLY FIREARMS

HAND-HELD GUNPOWDER WEAPONS

FEATURE: KEY GUNS

THE FLINTLOCK

FEATURE: UNUSUAL FIREARMS

FEATURE: NAVAL WARFARE

FEATURE: NAPOLEONIC WARFARE

DUELING PISTOLS

THE BLUNDERBUSS

PERCUSSION WEAPONS

FEATURE: FLINTLOCK TO PERCUSSION CONVERSIONS

PART IV

WAR, DEFENSE, AND A CHANGING WORLD 18TH AND 19TH CENTURY

REPEATING WEAPONS

PEPPERBOXES AND DERRINGERS

COLT'S REVOLVERS

COLT'S COMPETITORS

FEATURE: THE AMERICAN CIVIL WAR

WEAPONS OF THE CIVIL WAR

UNION WEAPONS

CONFEDERATE WEAPONS

WEAPONS OF THE AMERICAN WEST

THE AMERICAN WEST: RIFLES

FEATURE: MAUSERS

BOLT-ACTION MAGAZINE RIFLES

THE AUTOMATIC PISTOL

PERSONAL DEFENSE WEAPONS

WEAPONS OF DECEPTION

FEATURE: ALARM AND TRAP WEAPONS

COMBINATION WEAPONS

PART V

THE WORLD AT WAR 20TH CENTURY AND BEYOND

MODERN WARFARE

WEAPONS OF WORLD WAR I

EDGED WEAPONS

HANDGUNS OF WORLD WAR I

PISTOLS TO THE END OF WWI

FEATURE: TRENCH WARFARE

INFANTRY RIFLES OF WORLD WAR I

MACHINE GUNS OF WORLD WAR I

FEATURE: GANGSTER WARFARE

WEAPONS OF WORLD WAR II

EDGED WEAPONS

AXIS PISTOLS OF WORLD WAR II

ALLIED PISTOLS OF WORLD WAR II

WORLD WAR II RIFLES

MORTARS OF WORLD WAR II

FEATURE: CEREMONIAL WEAPONS OF WORLD WAR I & WORLD WAR II

MACHINE GUNS OF WORLD WAR II

SUBMACHINE GUNS OF WORLD WAR II

FEATURE: SPECIALIZED WEAPONS OF WORLD WAR II

WEAPONS OF ESPIONAGE

FEATURE: CHEMICAL & BIOLOGICAL WARFARE

POST-WORLD WAR II WEAPONS

HANDGUNS

INFANTRY WEAPONS

RESOURCES

“THE GREATEST JOY A MAN CAN KNOW IS TO CONQUER HIS ENEMIES AND DRIVE THEM BEFORE HIM. TO RIDE THEIR HORSES AND TAKE AWAY THEIR POSSESSIONS. TO SEE THE FACES OF THOSE WHO WERE DEAR TO THEM BEDEWED WITH TEARS, AND TO CLASP THEIR WIVES AND DAUGHTERS IN HIS ARMS.”

—Genghis Khan





FROM THE ROCK FIRST HELD in the hands of Paleolithic man to the twenty-first century assault rifle, weapons have been an integral component in human history. As early humans evolved, so did their technology. Small rocks became specialized tools and weapons. These early innovations helped man in his quest for food, and eventually in protecting both family and territory. Stone technology gave way to metallurgy and as humans passed through each period of history—copper, bronze, and iron—their use and development of weapons increased. With the advent of agriculture and animal domestication, the reliance on weapons shifted from hunting food to protection from wild animals and other humans. Newly acquired possessions—food, animals, and shelter—carried intrinsic wealth and brought status. Humans used weapons to protect both.

Early weapons were effective only in hand-to-hand combat. The introduction of gunpowder into Europe brought radical change in weaponry and warfare. Its military use was first recorded in 919 c.e., and by the eleventh century explosive bombs filled with gunpowder were fired from catapults in China. Europe's initial use of gunpowder in the thirteenth century was recorded by the English philosopher Roger Bacon, and cannons were made in Florence, Italy, around 1326 with technology used by bell makers. By the later fourteenth century, hand-held firearms made an appearance. When metal projectiles could pierce armor, chain mail became a necessity, yet often was a poor defense against gunpowder and lead. Soon hand-to-hand combat was used only as a last means of defense.

“THE ROOT OF THE EVIL IS NOT THE CONSTRUCTION OF NEW,
MORE DREADFUL WEAPONS. IT IS THE SPIRIT OF CONQUEST.”

—Ludwig von Mises

The design of new weaponry was not left to the military. Leonardo da Vinci, the great Renaissance artist and inventor who hated war was, however, fascinated by structure and function and the beauty of design and utility. This must have been why his great genius was used in inventing numerous weapons, including missiles, multibarreled machine guns, grenades, mortars, and even a modern-style tank. As deadly as these early weapons were, it would be several centuries before technological advances allowed hand guns to fire more than one projectile at a time. Guns did not cause the obsolescence of other weapons; knives, swords, and other implements were still needed in combat. To overcome the deficiency of single-fire weapons, combination weapons—those that could perform more than one function—were developed. Single-fire guns were fitted with bayonets, and the fighting ax contained a gun in the handle. If the shot missed the target, its user had an alternate defense source. Combination weapons continue to be manufactured today. A recent example would be a cellular phone that contains a small .22 caliber pistol that could be used for assassinations or easily smuggled through security screening by terrorists.

Multishot weapons appeared in the nineteenth century. Early examples called “pepperboxes” shot from five to twenty times. Perhaps the most famous multishot weapon was the Gatling gun, capable of firing up to 800 rounds per minute, which—had it been introduced earlier—might have meant an earlier triumph by the Union Army during the U.S. Civil War. The twentieth century saw its share of multishot weapons; one of the best known was the Thompson submachine gun used by the likes of Roaring Twenties gangsters Dillinger and Bonnie and Clyde. Once it was adopted by the military, the multishooting machine gun changed warfare. With one-shot guns, advancement toward an enemy could be accomplished during reloading. With machine guns, movement on an open battlefield became more deadly, and gunplay was performed from entrenchments and behind barricades. Technology changes were required to protect battlefield soldiers. Tanks and other armored vehicles were developed in the early

twentieth century to reduce battle casualties by protecting soldiers as they advanced across an open battlefield.

“POLITICAL POWER GROWS OUT OF THE BARREL OF A GUN.”

—Mao Zedong

In the modern era, technology continues to change the way weapons function in society, yet today’s weapons technology has not made firearms obsolete. The military use of precision guided missiles has changed the way modern armies accomplish their goals and objectives. Yet, firearms and knives still play an important role in warfare.

In addition to their intrinsic value as property and the worth of the materials of which they were composed (the Persian scimitar owned by both Abbas I and Catherine the Great being a case in point—see [pages 108-109](#)), weapons throughout history have represented status in society, communicating one’s prosperity and power. Many early weapons were costly, affordable only to the wealthy. Rulers in Europe and Asia had weapons constructed of gold or silver and encrusted with precious stones to flaunt their wealth, not only in their own society, but to those visiting their country. Many beautiful weapons come from the area around Persia—what is present-day Iran—and the Near East. Gold inlay, called damascene, embellished steel blades; hilts were decorated with rubies, emeralds, and other precious stones. Today, weapons reveal the status of their buyer, but in a different way. The country with the most weapons or the largest arsenal has the most military power, and military power symbolizes superior world status.

“A SWORD IS NEVER A KILLER, IT IS A TOOL IN THE KILLER’S HANDS.”

—Seneca

Aside from practical use, weapons have a unique appeal for collectors and

museums because of their technology, materials, craftsmanship, and
beauty. The most ordinary weapons tell the story of the time and the
society in which they were made and used. Though they served and
continue to serve deadly purposes, weapons allow a glimpse into human
history.

Robert P. Lindley

ROBERT LINDLEY

Berman Museum of World History, Anniston, Alabama

PREHISTORIC & ANCIENT WEAPONS

4500BC–AD100

From the earliest days humankind used a variety of weapons for hunting and defense



STONE AND BRONZE

The story of weapons begins with creation of the the first crude stone implements by early hominids, perhaps as long as 5 million years ago. At some point between 15,000 and 10,000BC, early modern humans refined the toolmaking process to craft axes, knives, and spear points. They used hard stones such as flint, knapped to achieve a sharp tip or cutting edge. These early weapons, along with specialized devices such as the atlatl (spear-thrower) and bolas (weighted throwing cords for entangling the legs of animals), were used in hunting; just when and where humans turned such weapons on each other in a way that we would recognize as warfare is still a matter of debate.

The next great advance in weapons technology came when humans discovered how to smelt mineral ore to produce metal—first copper, then bronze, allowing the creation of ever more durable blades and projectiles.

Early weapons include
bows, arrows, spears, javelins,
and bolas. The bolas were
used to hunt large animals
like bison and mammoths.

20,000-15,000
years ago

15,000-10,000
years ago

10,000

8,000-6,000
years ago

6,000-4,000
years ago

4,000-3,000
years ago

3,000-2,000
years ago

2,000-1,000
years ago

1,000-500
years ago



HUNTING ANIMALS

Neolithic cave paintings such as this one depict male and female hunters using a variety of weapons, including bows and arrows and bolas.

THE FIRST WEAPONS

Between 5 million and 1.5 million years ago, the early hominids *Australopithecus* lived in Africa's Olduvai Gorge. At some point, one of them chipped a small rock against another to create a crude cutting edge—the first tool. This modest event was the “big bang” for human technology—including weaponry.

When the Stone Age began around 3 million years ago, the first modern humans learned to fashion basic tools from stone. Between 600,000 and 100,000 BCE, multipurpose tools like the hand-ax replaced cruder implements as humans developed techniques to “flake” blades from stone, especially flint.

FROM HUNTING TO WAR

How and when hunting weapons began to be used against humans rather than animals, and when warfare as an organized activity developed, are controversial questions. In anthropological circles, no subject is more hotly debated than whether human aggression toward other humans is “hardwired” in our DNA or if it is imparted culturally. But it's likely that prehistoric peoples fought over hunting territory, especially as the climatic changes that occurred throughout the period transformed landscapes.

In 1964, archaeologists found the bodies of more than fifty people—both men and women—at Jebel Sahaba, a site in what is now Egypt near the Sudanese border dating from between 12000 and 5000 BCE. They had been killed with stone-bladed weapons. To some archaeologists and historians, the number of bodies and the manner of their deaths seemed to be evidence that prehistoric warfare went beyond mere raiding and territorial clashes.



BASIC IMPLEMENT

A prehistoric stone tool from around 400,000 BCE, when humans were fashioning primitive hand-axes for general cutting and chopping purposes.



STONE HAND-AX

This Paleolithic hand-ax was discovered in gravel pits in southern England. Its near-heart shape reflects a more advanced stone-working style than the adjacent example.



FLINT AX

Uncovered in Denmark, this impressive example of a flint ax dates from around 10,000 BCE. By the time of this early Mesolithic (middle Stone Age) era, tools such as this were vital for the hunting activities that had become well established among the primitive peoples. Note the especially detailed chiselling on the ax edges.

In this pre-agricultural time, procuring a steady food supply was the main priority. Spears were the earliest weapons used to hunt mammals, and by 250,000–100,000 BCE hunters had hardened the ends of wooden spears or tipped them with edged stone. The development of the atlatl, or spear thrower, greatly increased the spear's range and power. The bow and arrow came on the scene around 10,000 BCE, as did the knife in its modern form.

The Stone Age ended in different parts of the world at varying times as copper, bronze, and then iron were discovered across the globe. These metals would lead to the birth of a whole new breed of tools and weapons.

- [read online *The Witch of Lime Street: S@nce, Seduction, and Houdini in the Spirit World here*](#)
- [click The DNA of Healing: A Five-Step Process for Total Wellness and Abundance](#)
- [read **Seafarer's Handbook: Sourcebook of Ships, Oceans, and the Beasts Therein \(Legends & Lairs, d20 System\)**](#)
- [download online **Son of Hamas: A Gripping Account of Terror, Betrayal, Political Intrigue, and Unthinkable Choices pdf**](#)
- [Ugly Love: A Novel pdf, azw \(kindle\), epub](#)

- <http://fitnessfatale.com/freebooks/The-Witch-of-Lime-Street--S--ance--Seduction--and-Houdini-in-the-Spirit-World.pdf>
- <http://tuscalaural.com/library/Gone.pdf>
- <http://reseauplatoparis.com/library/Seafarer-s-Handbook--Sourcebook-of-Ships--Oceans--and-the-Beasts-Therein--Legends---Lairs--d20-System-.pdf>
- <http://yachtwebsitedemo.com/books/Adobe-Acrobat-6-PDF-For-Dummies.pdf>
- <http://test1.batsinbelfries.com/ebooks/The-Chrome-Suite.pdf>