



ARMS & ARMOR  
**EDUCATIONAL CHARTS**

ORIGINAL BY METROPOLITAN MUSEUM OF ART, NEW YORK CIRCA 1917

ENHANCED AND REPRINTED BY S. MØLLER, 2021

*First edition*

*“Created for likeminded  
enthusiasts”*

*This is no.      of 20 printed copies*



*Kunz Lochner, Nuremberg, dated 1548*

*Bashford Dean Memorial Collection, Gift of Mrs. Bashford Dean, 1929*





# **NEW YORK METROPOLITAN MUSEUM OF ART**

EDUCATIONAL CHARTS

ORIGINAL PUBLICATION DATE CIRCA 1917  
BY METROPOLITAN MUSEUM OF ART, NEW YORK

DIGITAL PHOTO RESTORATION, LAYOUT & REPRINT BY S. MØLLER, 2021

*Written by  
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Director, MET*

*Illustrated by  
Stanley J. Rowland  
Hashime Murayama*

## **TABLE OF CONTENTS**

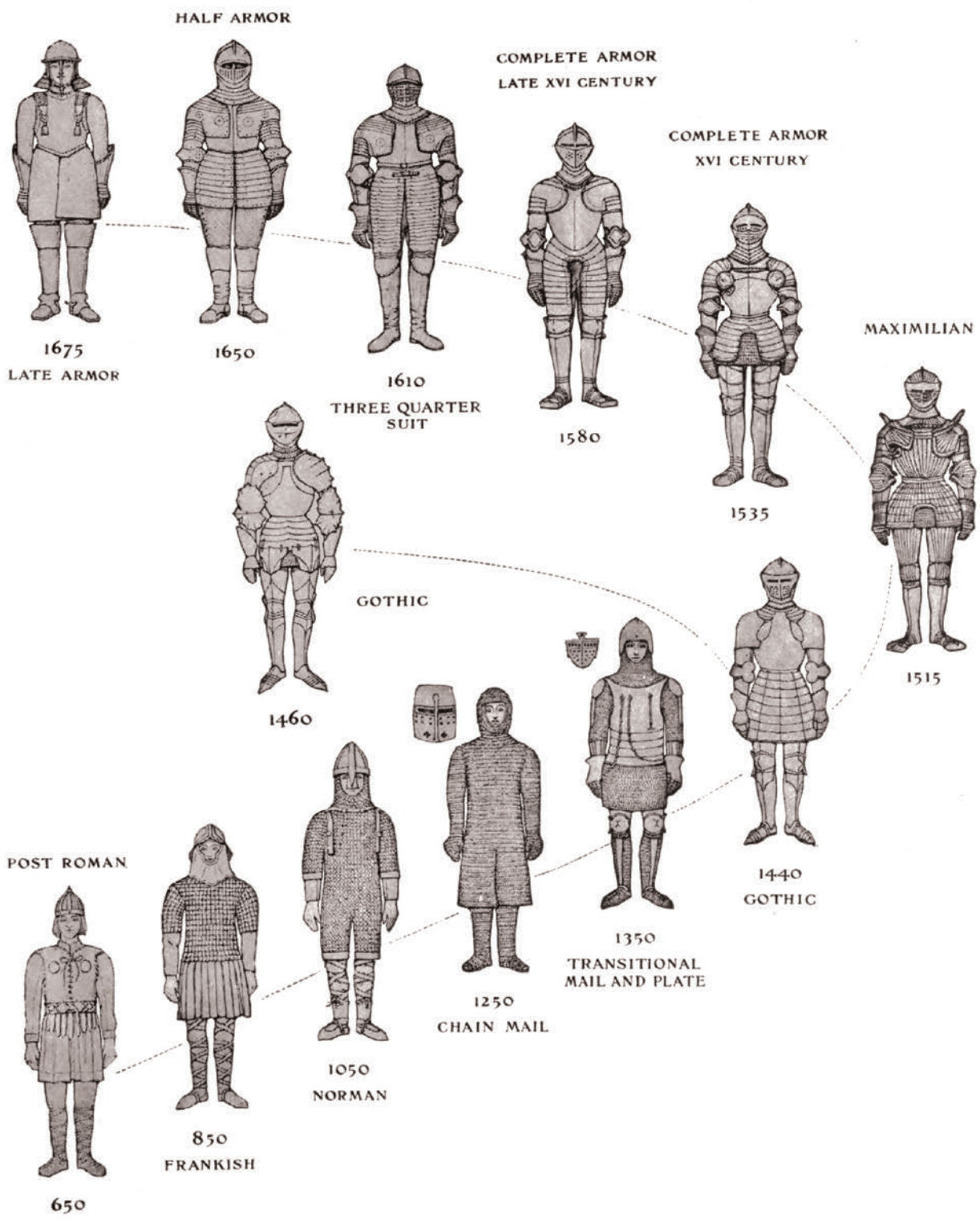
- ① PERIOD OF ARMOR
- ② SUIT OF ARMOR: PARTS. NAMED. EVOLUTION OF
- ③ HELMETS
- ④ BREASTPLATES
- ⑤ GAUNTLETS
- ⑥ SHIELDS
- ⑦ SWORDS
- ⑧ POLE ARMS
- ⑨ GUNS
- ⑩ CROSSBOWS
- ⑪ SPURS
- ⑫ PHOTOS SHOWING HOW A HELMET IS MADE
- ⑬ ABOUT BASHFORD DEAN

1

## PERIOD OF ARMOR

*'European Armor  
and its development  
during a thousand years  
from A.D. 650 to 1650.'*

*Bashford Dean, Dir.  
Hashime Murayama, Del.*

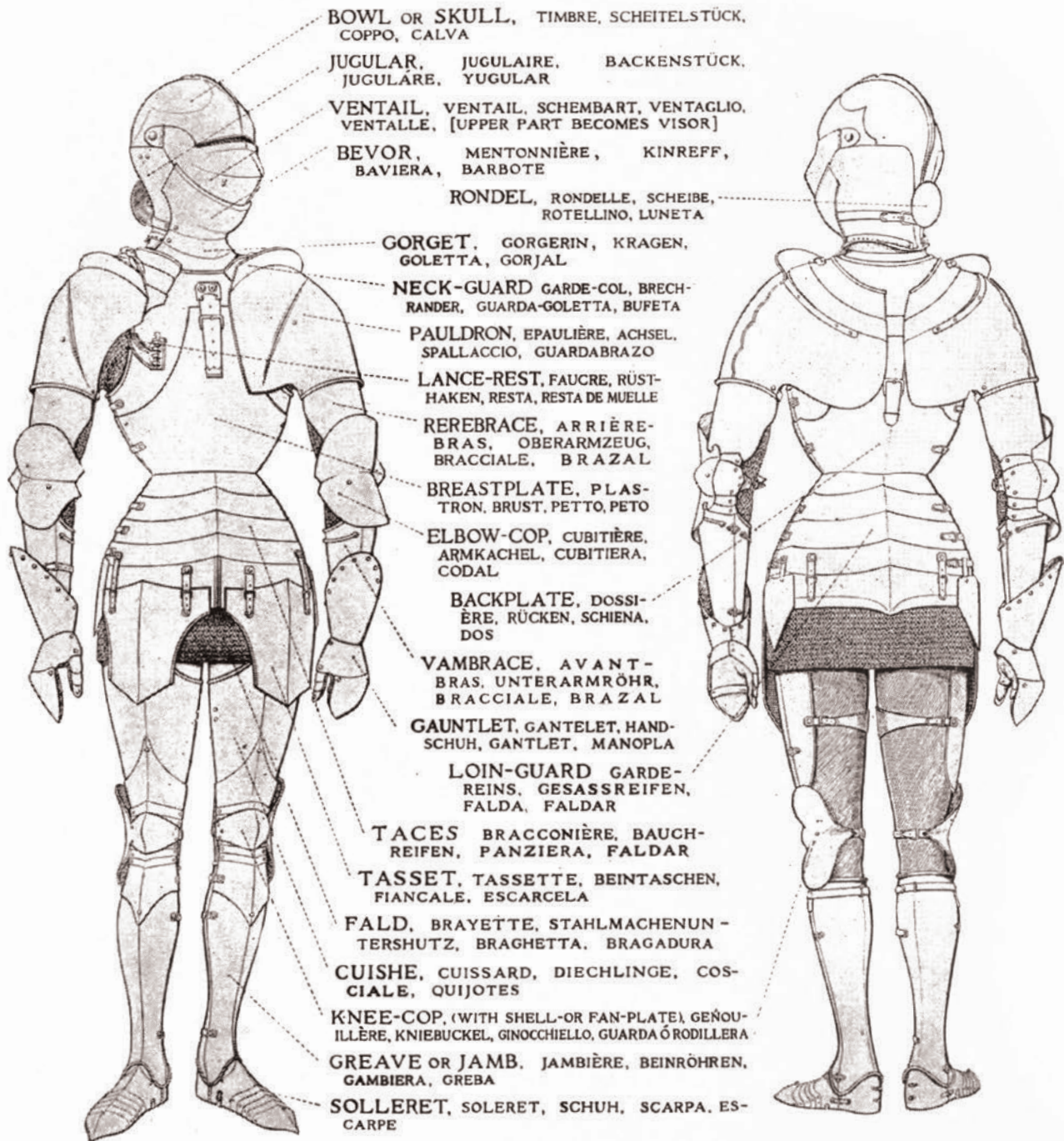


## SUIT OF ARMOR

*'A complete suit of European armor  
(second half of fifteenth century)  
Showing its various parts and giving their names  
in English, French, German, Italian  
and Spanish.'*

*Bashford Dean, Dir.  
Stanley J. Rowland, Del.*





BOWL OR SKULL, TIMBRE, SCHEITELSTÜCK,  
COPPO, CALVA

JUGULAR, JUGULAIRE, BACKENSTÜCK,  
JUGULARE, YUGULAR

VENTAIL, VENTAIL, SCHEMBART, VENTAGLIO,  
VENTALLE, [UPPER PART BECOMES VISOR]

BEVOR, MENTONNIÈRE, KINREFF,  
BAVIERA, BARBOTE

RONDEL, RONDELLE, SCHEIBE,  
ROTELLINO, LUNETA

GORGET, GORGERIN, KRAGEN,  
GOLETTA, GORJAL

NECK-GUARD GARDE-COL, BRECH-  
RANDER, GUARDA-GOLETTA, BUPETA

PAULDRON, EPAULIÈRE, ACHSEL,  
SPALLACCIO, GUARDABRAZO

LANCE-REST, FAUCRE, RÜST-  
HAKEN, RESTA, RESTA DE MUELLE

REREBRACE, ARRIÈRE-  
BRAS, OBERARMZEUG,  
BRACCIALE, BRAZAL

BREASTPLATE, PLAS-  
TRON, BRUST, PETTO, PETO

ELBOW-COP, CUBITIÈRE,  
ARMKACHEL, CUBITIERA,  
CODAL

BACKPLATE, DOSSIÈRE,  
RÜCKEN, SCHIENA,  
DOS

VAMBRACE, AVANT-  
BRAS, UNTERARMRÖHR,  
BRACCIALE, BRAZAL

GAUNTLET, GANTELET, HAND-  
SCHUH, GANTLET, MANOPLA

LOIN-GUARD GARDE-  
REINS, GESASSREIFEN,  
FALDA, FALDAR

TACES BRACCONIÈRE, BAUCH-  
REIFEN, PANZIERA, FALDAR

TASSET, TASSETTE, BEINTASCHEN,  
FIANCALE, ESCARCELA

FALD, BRAYETTE, STAHLMACHENUN-  
TERSHUTZ, BRAGHETTA, BRAGADURA

CUISHE, CUISSARD, DIECHLINGE, COS-  
CIALE, QUIJOTES

KNEE-COP, (WITH SHELL-OR FAN-PLATE), GEŃOU-  
ILLÈRE, KNIEBUCKEL, GINOCCHIELLO, GUARDA Ó RODILLERA

GREAVE OR JAMB, JAMBIÈRE, BEINRÖHREN,  
GAMBIERA, GREBA

SOLLERET, SOLERET, SCHUH, SCARPA, ES-  
CARPE

3

## HELMETS

*“Their kinds and developments during  
the centuries.”*



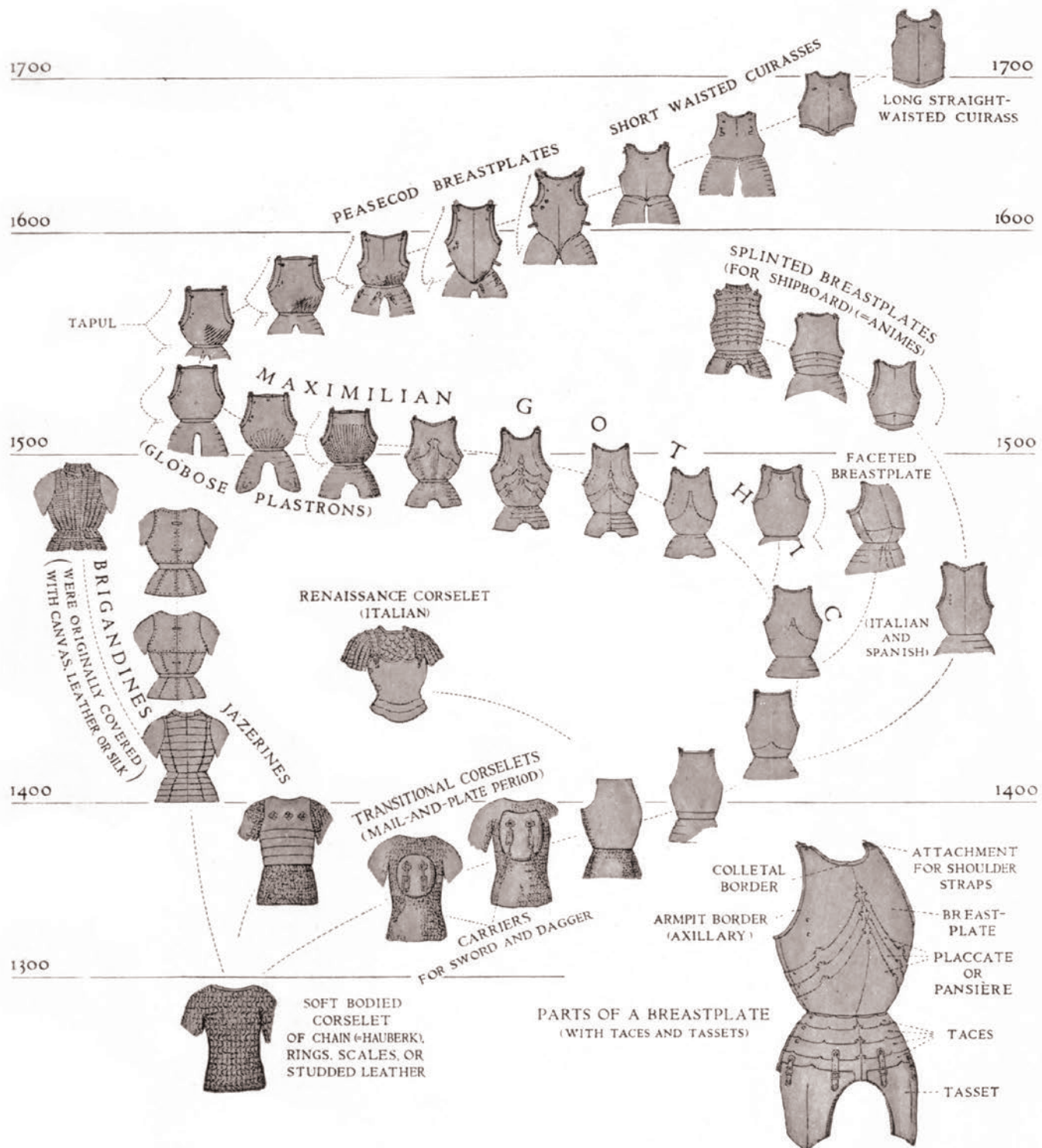


4

BREASTPLATES

*“The development of their commoner forms  
during the centuries.”*

*Bashford Dean, Dir.  
Stanley J. Rowland, Del.*



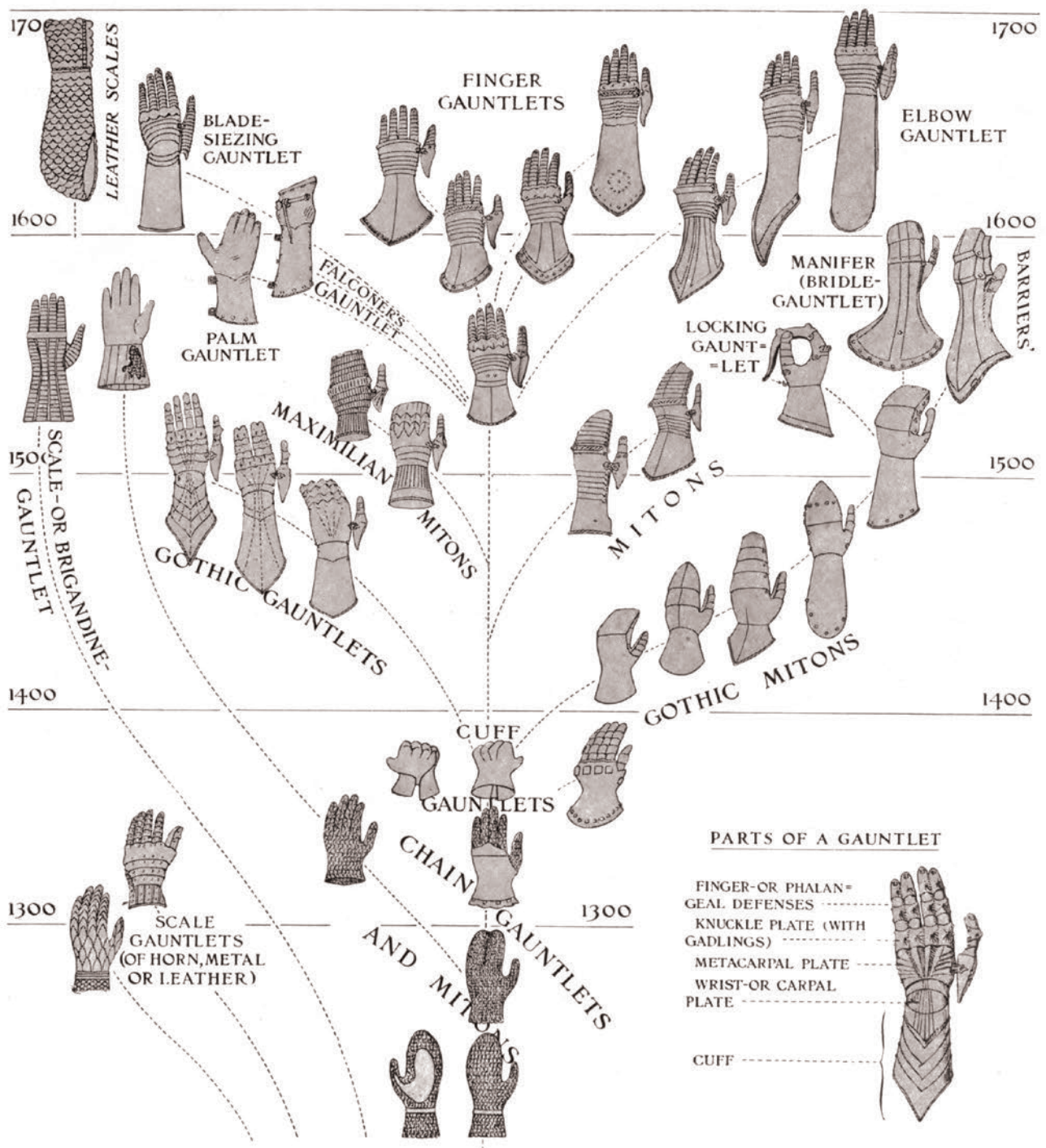
5

## GAUNTLETS

*“The development of their commoner forms  
during the centuries.”*

*Bashford Dean, Dir.  
Stanley J. Rowland, Del.*



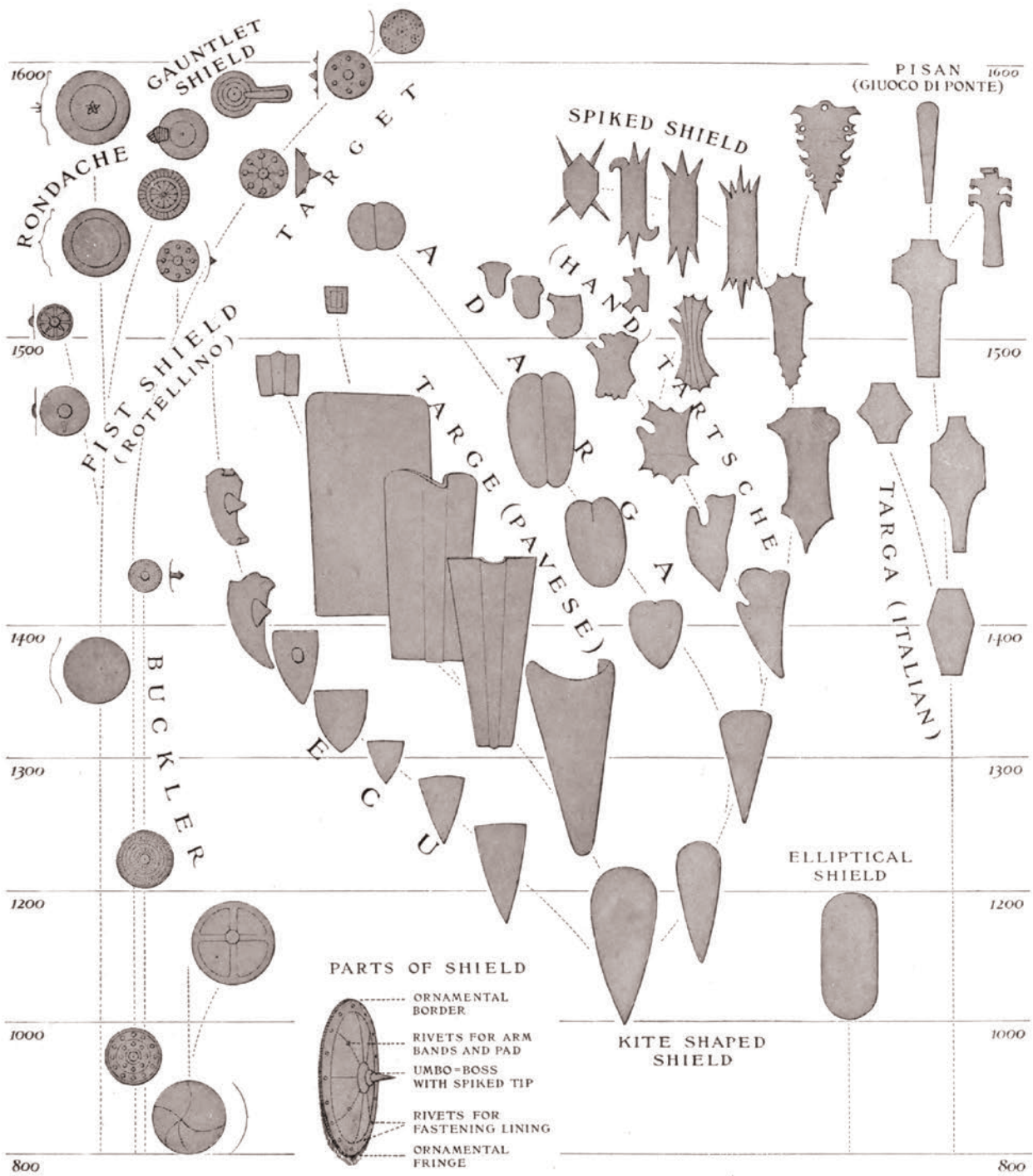


6

## SHIELDS

*“The development of their forms  
during the centuries.”*

*Bashford Dean, Dir.  
Hashime Murayama, Del.*



1600

1600

1500

1500

1400

1400

1300

1300

1200

1200

1000

1000

800

800

RONDACHE

GAUNTLET SHIELD

FIST SHIELD (ROTELLINO)

BUCKLER

PISAN (GIUOCO DI PONTE)

SPIKED SHIELD

TARGET

(HAND)

TARGE (PAVESE)

TARTSCHE

TARGA (ITALIAN)

ELLIPTICAL SHIELD

KITE SHAPED SHIELD

PARTS OF SHIELD

- ORNAMENTAL BORDER
- RIVETS FOR ARM BANDS AND PAD
- UMBO-BOSS WITH SPIKED TIP
- RIVETS FOR FASTENING LINING
- ORNAMENTAL FRINGE

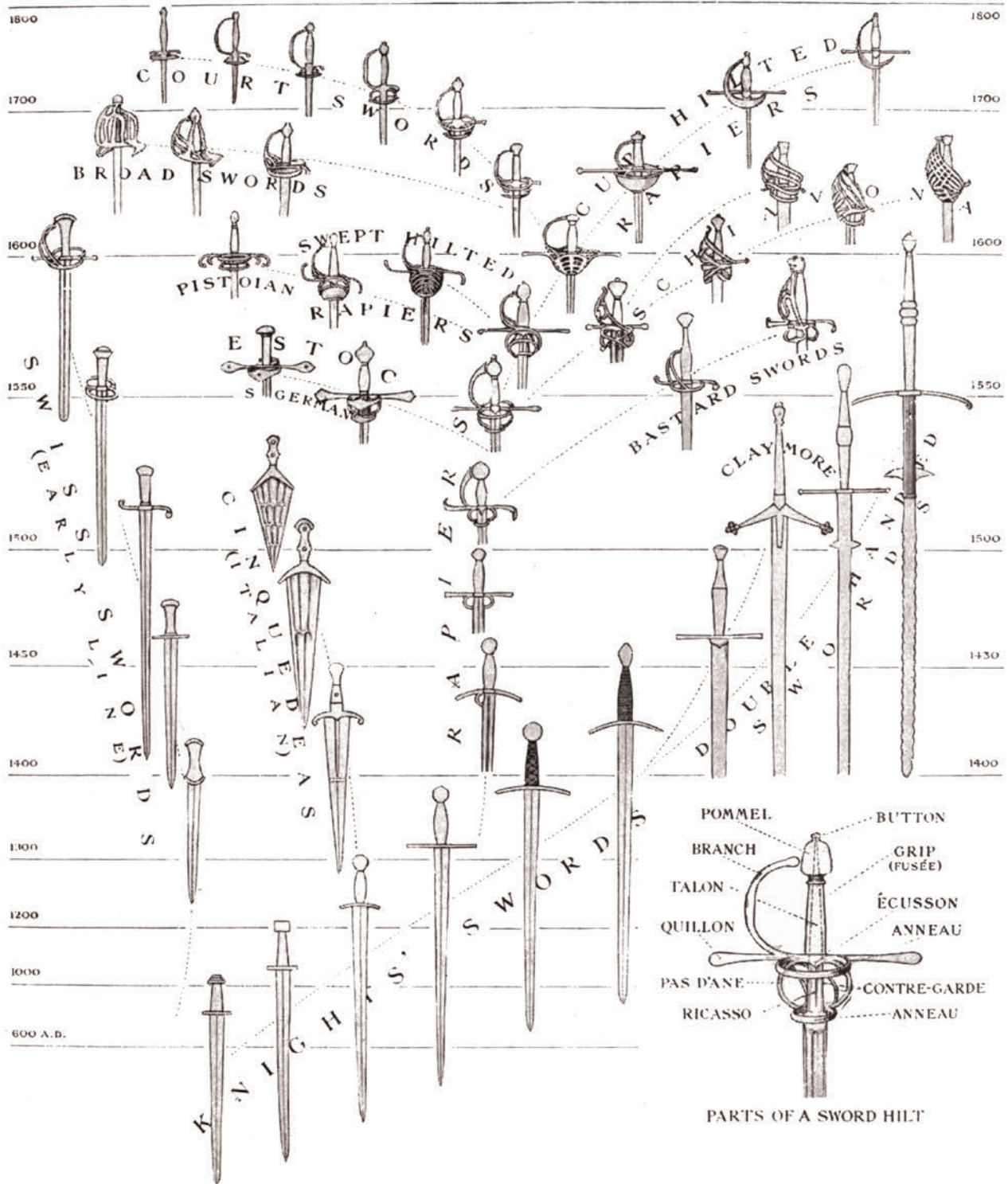


7

## SWORDS

*'The development of their straight forms  
during the centuries.'*

*Bashford Dean, Dir.  
Stanley J. Rowland, Del.*



POLE ARMS

*“The development of their commoner forms  
during the centuries.”*

*Bashford Dean, Dir.  
Stanley J. Rowland, Del.*



1800

1800

1700

1700

1600

1600

1500

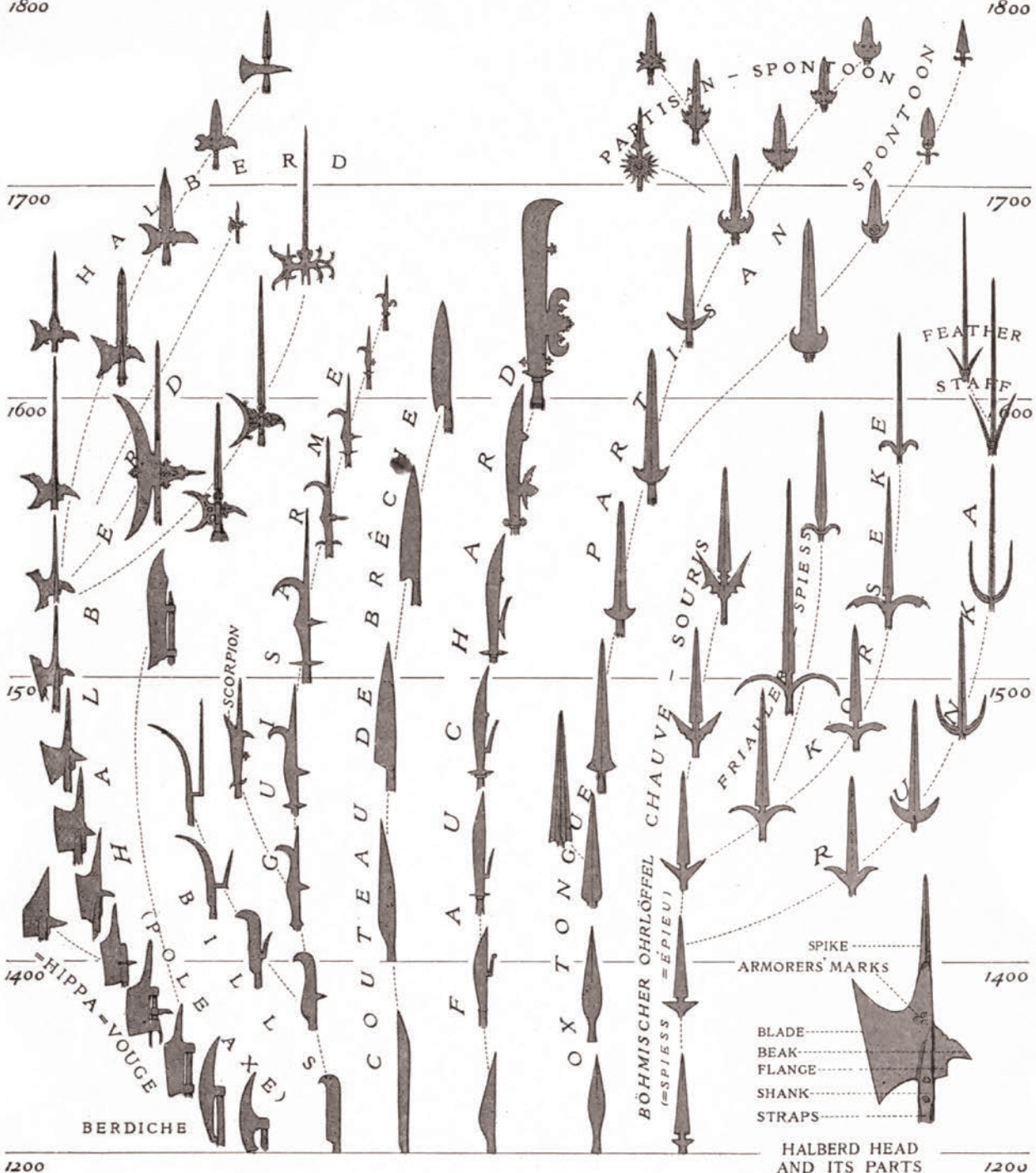
1500

1400

1400

1200

1200



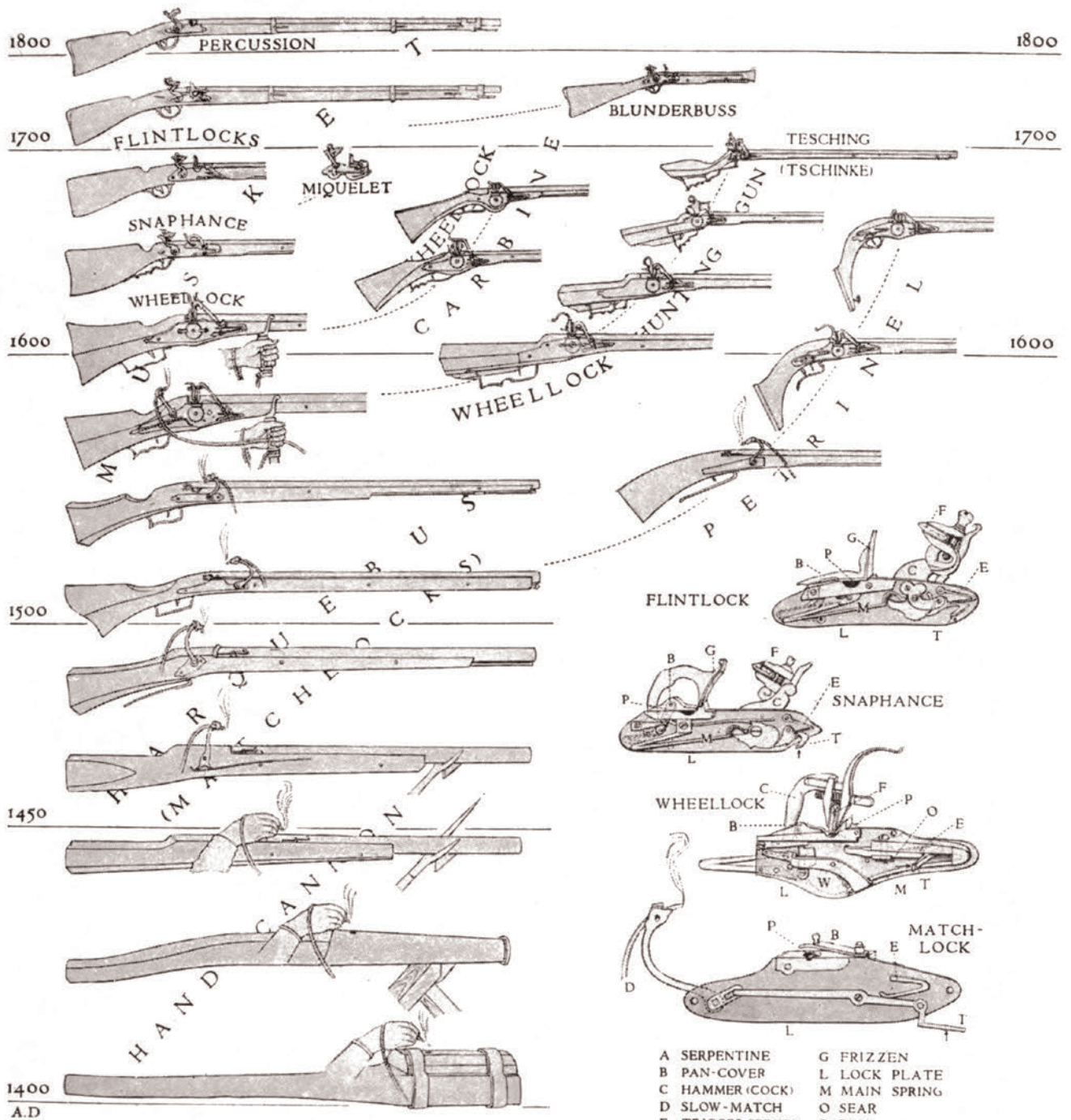
- BLADE
- BEAK
- FLANGE
- SHANK
- STRAPS
- SPIKE
- ARMORERS' MARKS

HALBERD HEAD AND ITS PARTS

9

## GUNS

*'The development of their commoner forms  
during the centuries.'*



- A SERPENTINE
- B PAN-COVER
- C HAMMER (COCK)
- D SLOW-MATCH
- E TRIGGER SPRING
- F FLINT OR PYRITES
- G FRIZZEN
- L LOCK PLATE
- M MAIN SPRING
- O SEAR
- P PAN
- T TRIGGER
- W WHEEL

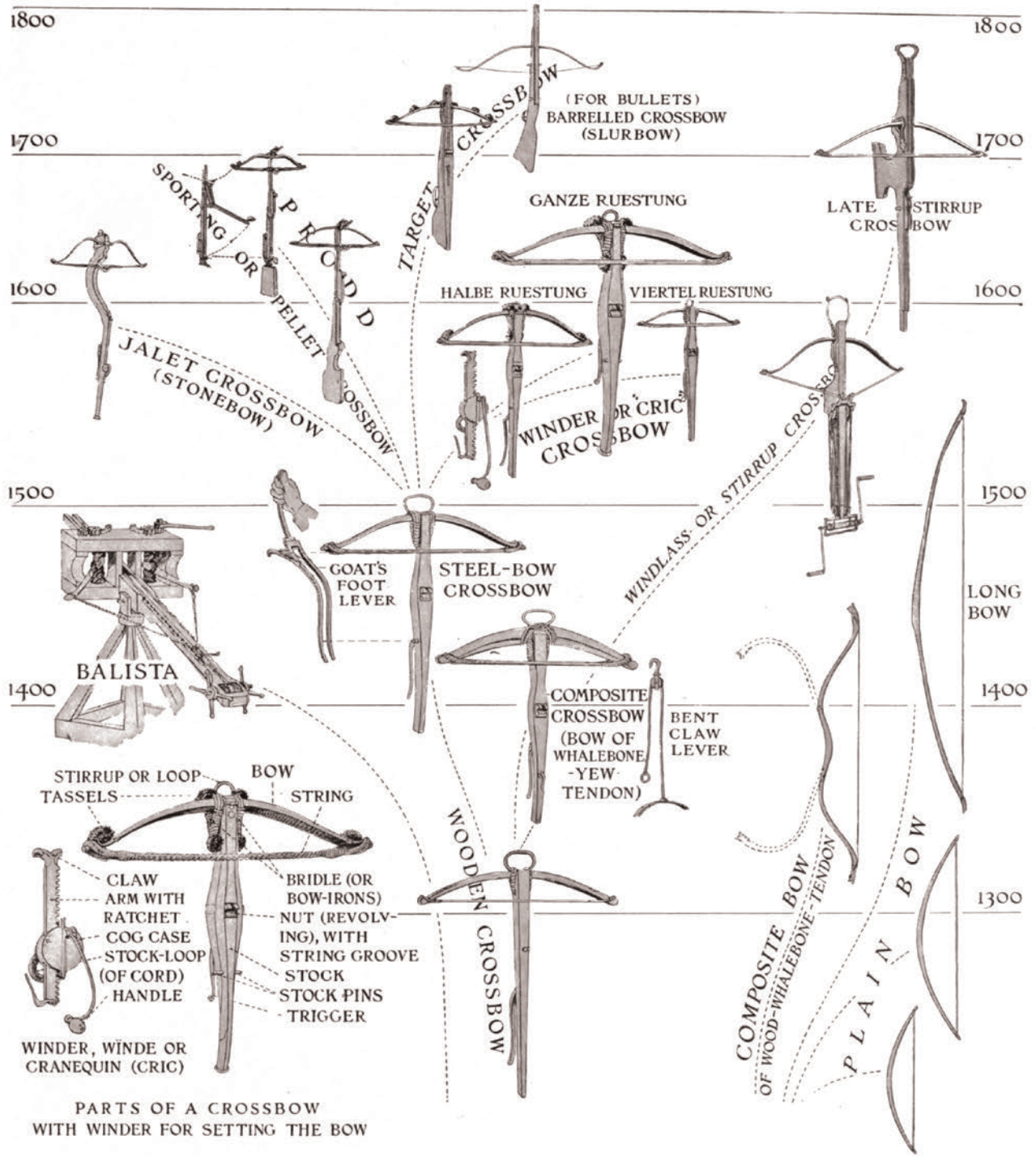
DETAILS OF GUN LOCKS

## CROSSBOWS AND BOWS

*“The development of their commoner forms  
during the centuries.”*

*Bashford Dean, Dir.  
Stanley J. Rowland, Del.*

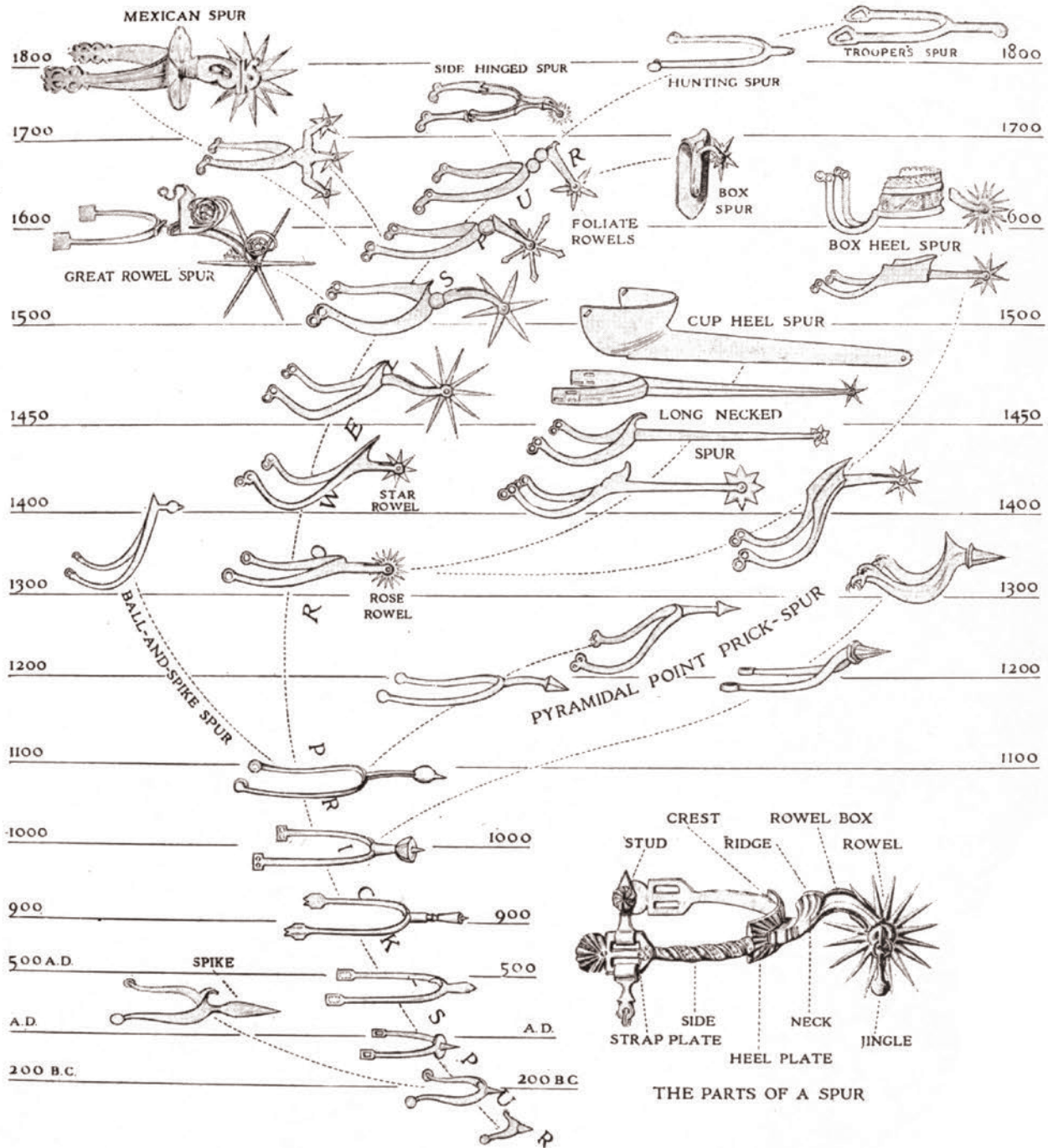




## SPURS

*“The development of their commoner forms  
during the centuries.”*

*Bashford Dean, Dir.  
Stanley J. Rowland, Del.*



12

## MAKING A HELMET

*'Photographs showing how a helmet is made.'*





1. PLATE OF MACHINE-TOOL STEEL (13/100 in. thick) FROM WHICH HELMET IS MADE



7. MARGIN CUT OFF, OUTLINING FACE



12. FRONT VIEW OF SIMILAR STAGE



17. FILED AND POLISHED, BORDERS FINISHED, BANDS READY FOR DECORATION



2. PLATE GIVING FIRST CURVATURE. CHALKLINE DENOTES FUTURE CREST



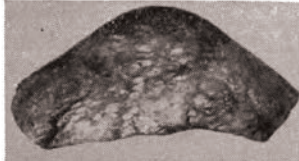
8. NECK REGION ARISING



13. CREST AND NECK REGION COMPLETED



18. READY FOR ETCHING. PATTERN PAINTED IN ACID-PROOF VARNISH



3. PLATE DEVELOPED BOWL SHAPED. NOTE DEEP MARKS OF HAMMER



9. CRANIUM MODELLED. NOTE HAMMER MARKS INSIDE AND OUT



14. CHEEK PIECES IN PLACE



19. DECORATED BANDS FIRE-GILT. HELMET FINISHED



4. BOWL ASSUMES CONICAL FORM



10. SIDE VIEW OF SOMEWHAT LATER STAGE



15. VISOR AND VENTAIL ATTACHED



20. FRONT VIEW OF FINISHED HELMET WEIGHT 8 1/2 POUNDS



5. DOME OF HEAD AND CREST APPEAR



11. SIDES CUT OUT FOR FITTING CHEEK-PLATES



16. BOWL, CHEEK-PIECES, VISOR, AND VENTAIL IN PLACE



21. SIDE VIEW OF FINISHED HELMET



6. SIDES NOW DEVELOPED

**PHOTOGRAPHS SHOWING HOW A HELMET IS MADE**

1-13, BOWL HAMMERED OUT OF A SINGLE PIECE OF STEEL; 14-16, PARTS PUT TOGETHER; 17, FILED AND POLISHED; 18, READY FOR ETCHING; 19-21, FIRE-GILT AND FINISHED.

HELMET NOW IN GALLERY H-8 CASE 95, WORK BY D. TACHAUX, 1915, IN RESTORING THE MISSING HEAD-PIECE OF SCUDAMORE ARMOR.

## 13

### BASHFORD DEAN

Bashford Dean (October 28, 1867 – December 6, 1928) was an American zoologist, specializing in ichthyology, and at the same time an expert in medieval and modern armor.

He is the only person to have held concurrent positions at the American Museum of Natural History and the Metropolitan Museum of Art, where he was Honorary Curator of Arms and Armor; the Metropolitan Museum purchased his collection of arms and armor after his death.

Bashford Dean was born on October 28, 1867 in New York City. According to his sister Harriet Martine Dean, his interest in armour began at age six, when he “spent hours examining a helmet” while visiting the collection of the estate of the late Carlton Gates in Yonkers (d. 1869), a family acquaintance, whose holdings included Asian and Medieval arms and weaponry. In 1876, aged about nine, he tried to buy the helmet but was outbid. In 1877, at age 10, he purchased two 16th century daggers from the collection of Henry Cogniat and started his personal collection.

In 1881, he entered the College of the City of New York at only 14 years of age and graduated in 1886.

He enrolled in zoology and palaeontology at Columbia University, and received his Ph.D in 1890.

As his career in ichthyology progressed, his focus eventually shifted toward the subject of armor and by 1900 he had amassed a private collection of approximately 125 armory specimens. In 1904, Dean initiated the process of establishing the Metropolitan Museum of Art’s Department of Arms and Armor, serving first as guest curator while organizing the collection of Duc de Dino, quickly progressing to the position of honorary curator in 1906 and finally to the position of founding curator on October 28, 1912, then working for the Met full-time.

During World War I, Dean was commissioned a Major in the Ordnance Corps, and worked on development of armor, especially of helmets.

His work guided and informed helmet development in the US, and possibly in other countries, at least until the 1980s, although his preferred design was rejected in 1918 and c. 1937, as its resemblance to the German Stahlhelm was considered too close. He was the author of *Helmets and Body Armor in Modern Warfare*.

Dean wrote the 1929 published *Catalogue of European Court Swords and Hunting Swords: Including the Ellis, De Dino and Reubell Collections*.





