

THE HISTORY OF CARTOGRAPHY

VOLUME ONE

*Cartography in Prehistoric,  
Ancient, and Medieval Europe  
and the Mediterranean*

*Edited by*

J. B. HARLEY

*and*

DAVID WOODWARD

# Contents

List of Illustrations ix

Preface xv

*J. B. Harley and David Woodward*

**1 The Map and the Development of the History of Cartography 1**

The Historical Importance of the Map

Renaissance to Enlightenment: The Early Antecedents of the History of Cartography

The History of Cartography as Handmaiden:

Traditional Themes from the Nineteenth Century

The Growth of a Scholarly Identity

*J. B. Harley*

**PART ONE Cartography in Prehistoric Europe and the Mediterranean 43**

**2 Prehistoric Maps and the History of Cartography: An Introduction 45**

*Catherine Delano Smith*

**3 The Origins of Cartography 50**

*G. Malcolm Lewis*

**4 Cartography in the Prehistoric Period in the Old World: Europe, the Middle East, and North Africa 54**

Prehistoric Maps and Historians of Cartography

The Source Material and Its Interpretation

Recognition of Topographical Maps by Antiquarians in European Rock Art

The Classification of Prehistoric Maps from Europe, the Middle East, and North Africa in the Prehistoric Period

Topographical Maps

Celestial Maps

Cosmological Maps

Conclusion

*Catherine Delano Smith*

**PART TWO Cartography in Ancient Europe and the Mediterranean 103**

**5 Cartography in the Ancient World: An Introduction 105**

*O. A. W. Dilke*

**6 Cartography in the Ancient Near East 107**

Babylonian Geographical Knowledge

Babylonian Mensuration and Calculation

Babylonian Plans

Babylonian Small-Scale Maps

Celestial Geography

Cartographic Knowledge in Syria and Palestine

*A. R. Millard*

**7 Egyptian Cartography 117**

Topographical Drawing and Religious Cartography

Turin Map of the Gold Mines

Land Survey, Cadastral Maps, and Building Plans

*A. F. Shore*

**8 The Foundations of Theoretical Cartography in Archaic and Classical Greece 130**

Circular Maps and the Flat Earth: Anaximander and His Successors in the Sixth Century B.C.

The Impact of New Theories on Cartography from the Sixth to the Fourth Century B.C.: Pythagoras, Herodotus, and Democritus

Theory into Practice: New Celestial Globes and Maps in the Fourth Century B.C.

*Prepared by the editors from materials supplied by Germaine Aujac*

**9 The Growth of an Empirical Cartography in Hellenistic Greece 148**

Exploration and Discovery in the Reform of the World Map

The Measurement of the Earth and the World Map by Eratosthenes

The Dissemination of Cartographic Knowledge

*Prepared by the editors from materials supplied by Germaine Aujac*

- 10 Greek Cartography in the Early Roman World 161  
Continuity and Change in Theoretical Cartography: Polybius, Crates, and Hipparchus  
Maps and Globes in Education  
The Map of the Inhabited World Recommended by Strabo  
*Prepared by the editors from materials supplied by Germaine Aujac*
- 11 The Culmination of Greek Cartography in Ptolemy 177  
Updating the World Map: Ptolemy's Criticism of Marinus of Tyre  
Ptolemy's Instructions for Mapmaking  
The Celestial Globe in the *Almagest*  
The *Climata* in the *Almagest*  
The *Geography*  
Size and Dimensions of the Inhabited World in the *Geography*  
Map Projections  
Ptolemy as a Mapmaker: The Tables of Coordinates  
Cartographic Insights from Ptolemy's Topography: The Coordinates and the Regional Maps  
Ptolemy's Topography in the Coordinates and Maps: General Considerations  
Ptolemy's Coordinates: The Examples of the British Isles and Italy  
Ptolemy's Maps: Some Regional Examples  
*O. A. W. Dilke with additional material supplied by the editors*
- 12 Maps in the Service of the State: Roman Cartography to the End of the Augustan Era 201  
Etruscan Beginnings  
Geographical and Cadastral Maps from the Republican Period  
Geographical Maps  
Agrippa's World Map  
Cadastral Maps  
*O. A. W. Dilke*
- 13 Roman Large-Scale Mapping in the Early Empire 212  
Survey Methods of the *Agrimensores*  
The *Corpus Agrimensorum*  
The Cadasters of Arausio  
Large-Scale Town Maps: The *Forma Urbis Romae*  
Engineering Plans for Tunnels and Aqueducts  
*O. A. W. Dilke*
- 14 Itineraries and Geographical Maps in the Early and Late Roman Empires 234  
Itineraries and the Peutinger Map  
The Latin Geographical Manuscripts and Their Maps  
Maps as Decorative and Symbolic Images  
The Use of Maps in the Roman Period  
*O. A. W. Dilke*
- 15 Cartography in the Byzantine Empire 258  
Roman Influences: The Theodosian Map and the Ravenna Cosmography  
Religious Cartography: Cosmas Indicopleustes and the Map Mosaics  
The Greek Revival and Ptolemy's *Geography*  
The Greek Manuscripts of Ptolemy's *Geography*  
*O. A. W. Dilke with additional material supplied by the editors*
- 16 Cartography in the Ancient World: A Conclusion 276  
*O. A. W. Dilke*
- PART THREE Cartography in Medieval Europe and the Mediterranean 281
- 17 Medieval Maps: An Introduction 283  
*P. D. A. Harvey*
- 18 Medieval *Mappaemundi* 286  
The Context and Study of *Mappaemundi*  
Map and Text  
Terms  
Realism versus Symbolism  
Relationship of *Mappaemundi* to Other Medieval Maps  
Problems in the Study of *Mappaemundi*  
Classification Systems  
Main Periods of *Mappaemundi*  
Macrobius to Isidore: The Late Greco-Roman and Patristic Period  
Bede to Lambert of Saint-Omer  
Henry of Mainz to Richard of Haldingham  
Pietro Vesconte to Fra Mauro: The Transitional Period to 1460  
Themes in the Study of *Mappaemundi*  
Form  
Content and Meaning  
Conclusions  
*David Woodward*

- 19 Portolan Charts from the Late Thirteenth Century  
to 1500 371
- Introduction
  - The Origin and Compilation of the Portolan Charts
  - Drafting
  - Stylistic Content
  - Hydrographic Development
  - Toponymic Development
  - The Business of Chartmaking
  - The Function of the Portolan Charts
  - Conclusions
  - Tony Campbell*
- 20 Local and Regional Cartography in Medieval  
Europe 464
- Scope and Characteristics
  - Origins and Development
  - Maps of Palestine and Its Cities
  - Maps of Italian Cities
  - Northern Italian District Maps
- The *Isolarii*: Buondelmonti's *Liber Insularum Arcipelagi*
- Other Local Maps
  - Purpose and Use
  - Surveying and Mapping
  - Itinerary Maps and the Development of Maps Drawn  
to Scale
  - P. D. A. Harvey*
- 21 Concluding Remarks 502
- Gaps and Discontinuities
  - Cognitive Transformations
  - Social Contexts
  - J. B. Harley and David Woodward*
- List of Contributors 511
- Bibliographical Index 513
- General Index 559
- Jeffrey Pinkham*