HANNAH COBB,
KEVIN GREENE AND
TOM MOORE

SIXTH EDITION

ARCHAEOLOGY

An Introduction

ROUTLEDGE

ARCHAEOLOGY: AN INTRODUCTION

This fully updated sixth edition of a classic classroom text is essential reading for core courses in archaeology.

Archaeology: An Introduction explains how the subject emerged from an amateur pursuit in the eighteenth century into a serious discipline and explores changing trends in interpretation in recent decades. The authors convey the excitement of archaeology while helping readers to evaluate new discoveries by explaining the methods and theories that lie behind them. In addition to drawing upon examples and case studies from many regions of the world and periods of the past, the book incorporates the authors' own fieldwork, research and teaching. It continues to include key reference and further reading sections to help new readers find their way through the ever-expanding range of archaeological publications and online sources, as well as colour illustrations and boxed topic sections to increase comprehension.

Serving as an accessible and lucid textbook and engaging students with contemporary issues, this book is designed to support students studying archaeology at an introductory level.

New to the sixth edition:

- Inclusion of the latest survey and imaging techniques, such as the use of drones and eXtended reality.
- Updated material on developments in dating, DNA analysis, isotopes and population movement, including consideration of the ethical considerations of these techniques.
- Coverage of new developments in archaeological theory, such as the material turn/ontological turn, and work on issues of equality, diversity and inclusion.
- A whole new chapter covering archaeology in the present, including new sections on heritage and public archaeology, as well as an updated consideration of archaeology's relationship with the climate crisis.
- A revised glossary with over 200 new additions or updates.

Hannah Cobb is Professor of Archaeology and Pedagogy at the University of Manchester, UK.
Kevin Greene is Visiting Fellow in Archaeology at Newcastle University, UK.
Tom Moore is Professor of Archaeology at Durham University, UK.

ARCHAEOLOGY

An Introduction

Sixth edition

Hannah Cobb, Kevin Greene and Tom Moore

Routledge
Taylor & Francis Group
LONDON AND NEW YORK

Photograph by Dave Webb as part of the ArchDiggers project. This project aims to highlight some of the 'faces' involved in archaeology. The diggers in this image are Sara Simões on the lower part of section, and Megan Cameron-Heffer on the upper part.

First published 1983
Revised edition 1990, 1991
Revised edition 1995
Fourth edition 2002
Fifth edition 2010
Sixth edition published 2023

by Routledge
4 Park Square, Milton Park, Abingdon, Oxon, OX14 4RN
and by Routledge
605 Third Avenue, New York, NY 10158

Routledge is an imprint of the Taylor & Francis Group, an informa business

British Library Cataloguing-in-Publication Data
A catalogue record for this book is available from the British Library

Library of Congress Cataloging-in-Publication Data
Names: Cobb, Hannah, author. | Moore, Tom (Thomas Hugh), author. | Greene, Kevin, author.
Title: Archaeology : an introduction / Hannah Cobb, Kevin Greene, Tom Moore.
Description: 6th edtion. | Abingdon, Oxon ; New York, NY : Routledge, 2023. | Includes bibliographical references and index.
Identifiers: LCCN 2023044594 (print) | LCCN 2023044595 (ebook) | ISBN 9780367485856 (hardback) | ISBN 9780367485825 (paperback) | ISBN 9781003041757 (ebook)
Subjects: LCSH: Archaeology.
Classification: LCC CC165 .G694 2023 (print) | LCC CC165 (ebook) | DDC 930.1—dc23/eng/20230921
LC record available at https://lccn.loc.gov/2023044594
LC ebook record available at https://lccn.loc.gov/2023044595

ISBN: 978-0-367-48585-6 (hbk)
ISBN: 978-0-367-48582-5 (pbk)
ISBN: 978-1-003-04175-7 (ebk)

DOI: 10.4324/9781003041757

Typeset in Minion Pro
by Apex CoVantage, LLC

Contents

List of illustrations

Chapter 3

Chapter 4

Chapter 5

Chapter 6

Chapter 7

List of tables

Preface

WHO IS THIS BOOK AIMED AT?

Although this is essentially a textbook, it is also aimed at general readers. We have tried to provide an informative book for just about any interested reader from mid-teens upwards whose interest has been stimulated by visiting archaeological sites or encountering archaeology in popular culture. It is meant to be readable, rather than exhaustively comprehensive, and, while we have attempted to draw upon a wide range of examples from around the world, the authors have made the most of their own areas of expertise. Since many other introductory books about archaeology have been written by prehistorians, readers may notice a larger number of examples drawn from historical periods in this book.

Kevin Greene was always interested in *how* archaeology worked as well as in its results. His knowledge and experience of archaeology began during childhood and developed through study for a degree and then a PhD at Cardiff University. After teaching archaeology to adult education students, he developed an introductory undergraduate course at Newcastle University – not just for archaeology students but also for other students taking an archaeology course as part of a broader degree. This continuously evolving course was the original inspiration for this book, which was designed to place the information imparted in lectures into a wider context and to point students towards resources for further independent reading and study. Kevin is delighted that Hannah has undertaken this revision of *Archaeology: An Introduction* – something he would not have been able to do in retirement. Just as Tom brought new methods and theories into the book's 2010 edition, Hannah has breathed new life into this one, especially where up-to-date theory is concerned.

Tom Moore was still at primary school when the first edition of this book was published in 1983. After working in contract archaeology, he studied archaeology at Durham University, and then worked briefly at Newcastle University before returning to a lecturing post at Durham. His awareness of current archaeological methods and approaches to cultural landscape management has been gained from extensive fieldwork and excavation projects in Britain and France. Tom's particular interest in the transition from later prehistory to the Roman period means that he has always had to think deeply about the cultural meaning of the sites and artefacts he has investigated. He is very interested in concepts such as identity and ethnicity, as well as ways in which ideas about 'Celtic' and 'Roman' Britain and Gaul have been used (and abused) in creating national awareness in England and France in the recent past and present.

Hannah Cobb joins Kevin and Tom as an author for the first time in this edition. Hannah first encountered archaeology at the age of seven, when a rescue excavation took place near her house. The archaeologists very kindly took her seriously when she produced fragments of pottery she had found in her garden at home, and from that moment she was hooked! Hannah completed her undergraduate degree in archaeology at the University of Edinburgh before working in commercial archaeology and then completing her PhD at the University of Manchester. She also worked for the Higher Education Academy and

Open University before becoming a technician and later a lecturer at the University of Manchester. Hannah has directed a number of excavation projects exploring sites ranging from the Mesolithic to the Victorian period. The longest-running of these, the multiperiod Ardnamurchan Transitions Project, has enabled Hannah to think deeply about how to teach archaeological practice in a reflexive and inclusive way, and it shaped her work as one of the creators of the Archaeological Skills Passport. Teaching and learning have always been at the heart of Hannah's work and, with long-term collaborator Karina Croucher, one of Hannah's major research contributions has been in the area of archaeological pedagogy. Hannah is also involved in broader teaching and learning leadership at the University of Manchester. Hannah also *loves* archaeological theory, and she is a passionate advocate of equality, diversity and inclusion in archaeology and beyond. She has worked closely with the Chartered Institute for Archaeologists, founding and chairing their Equality and Diversity group from 2015 to 2022. Kevin has learned a lot from Hannah's new material about how theoretical approaches to archaeology, and its cultural context, have evolved in new directions since the 2010 edition.

The different experiences we bring to this book mean that we are keenly aware that archaeology, its interpretation and the presentation of its findings are not simply a matter of neutral academic interest. Heritage and the management of cultural resources are important components of the way we live today and how we relate to our world – whether as tourists visiting sites like Stonehenge, professional archaeologists recording sites threatened by development, military advisors attempting to minimise the looting of sites and museums during wars or as individuals facing the threats of a rapidly warming climate. As university lecturers, Hannah and Tom undertake research and teaching, but the wonderful thing is that these do not happen in isolation from one another. Our teaching informs our research, and our research informs our teaching; we hope that this is something that translates into the pages of this book. We also see our jobs as lecturers primarily as a way of encouraging students to learn through placing basic information in a wider context and providing plenty of signposts for them to follow during independent study. Because archaeology touches upon so many different disciplines and introduces so many concepts that make us think about our place in the world, we believe that it provides outstanding intellectual rewards for professionals and amateurs alike.

HOW DOES THIS EDITION DIFFER FROM ITS PREDECESSORS?

Archaeology has undergone many changes since the first edition of this book appeared in 1983, and as a result, the book has changed too. Kevin was the sole author of the first four editions, and he also experimented with web companions to the book. The fifth edition (2010) brought Tom Moore on board and saw the introduction of colour illustrations for the first time. Since 2010, an important development has been in the publishing of ebooks as standard practice, which means that a web companion is no longer needed for this volume. Another development is that archaeological resources are now often 'born' digital, but although many online sources have a 'DOI' (digital object identifier), which means that they have a permanent web address, some do not. For this reason, we do not provide web links in the text but do provide the names of databases and web resources so that the most up-to-date sources can be found by the reader through search engines. Online sources are also cited in the bibliography in the Harvard style. This edition's glossary is much larger, with many new terms and revised definitions; students could benefit from reading through it to familiarise themselves with archaeological terminology.

The addition of Hannah as a new author to take the lead in updating this edition marks a significant generational change, both in age and outlook. As a result, there are some notable differences between the sixth edition and its predecessors. One difference is organisational; the last decade has seen a proliferation in the number of publications in archaeology, including many digital sources. These can all be searched for easily using online search engines. This means that the 'further reading' sections found at the end of each chapter play a different role in this edition of the book. Where once it was feasible to point to a few further

examples, today there are too many to narrow this down. As a result, these sections are shorter, sometimes pointing to core texts, but mostly highlighting key journals and web resources that the reader may want to investigate. Another difference is the many additions to the content of the book. There have been huge developments in survey techniques, such as the use of drones (which were not mentioned at all in the fifth edition), in scientific techniques such as the use of ancient DNA and in archaeological theory with the development of the 'ontological turn'. These areas and more are reflected in significant updates to the text. There have also been important developments in how archaeology is communicated to the public and in the relationship between climate crisis and archaeology. These developments have been so substantial that we have introduced a whole new chapter to explore them thoroughly. Social justice activism has also, rightly, impacted archaeology. The need to make our discipline and our research more inclusive and to challenge the legacies of colonialism in archaeology and heritage are, more than ever before, recognised as important concerns. The changes in the sixth edition that arise from this recognition are part of an ongoing process; we have tried to highlight examples that are not only from the Global North and also to foreground the work of people whose voices have historically been silenced, erased or simply not heard in books like this. We recognise that this process is not perfect, and it is important that we continue to work hard on making future editions more inclusive.

WHAT IS OUR VIEW OF ARCHAEOLOGY?

Kevin produced three editions of this book before an acute reader spotted that he had never actually defined 'archaeology'. In this edition, we provide a short definition in the glossary to this volume. One helpful definition of archaeology was written by Kevin elsewhere, in the introduction to an entry that he wrote for the 2008 *Oxford encyclopedia of the modern world*:

> The material remains of the past provide a common focus for the work of all archaeologists. While some study specific artifacts or monuments, others examine landscapes formed by human activities over long periods. Archaeology covers several million years, ranging from geological periods when species ancestral to humans are first found right up to recent historical times, including the Industrial Revolution. A distinction is frequently made between prehistory, for which no documentary sources are available, and text-aided archaeology.

A further helpful definition is by Kristian Kristiansen, who explains how archaeological research leads not only to understanding the past but to conservation in the present:

> Archaeology is the study and preservation of the material remains of past societies and their environment, that nowadays also includes modern material culture. The objective is likewise twofold: to reconstruct past life-worlds in order to understand and explain the historical conditions that governed people's life as it unfolded, both in their local settings and on a larger historical scale of prehistoric and historic societies; and to preserve the archaeological record in the landscape and in museums for future study and use.
>
> (Kristiansen 2009: 4–5)

Definitions only take the reader so far. The essence of archaeology is captured very well by the moment in 1922 when Howard Carter first glimpsed the treasure of Tutankhamun by candlelight through a small hole in the wall that sealed the tomb (Winstone 1991):

> As my eyes grew accustomed to the light, details of the room within emerged slowly from the mist, strange animals, statues, and gold – everywhere the glint of gold. For the moment – an eternity it must have seemed to the others standing by – I was struck dumb with amazement, and when Lord Carnarvon, unable to stand the suspense any longer, inquired anxiously, 'Can you see anything?' it was all I could do to get out the words, 'Yes, wonderful things.'
>
> (quoted in Stiebing 1993: 83–84)

Although Carter's actual words may have been less memorable (Bahn 1996b: ix), the idea of a dark space seen from a very small point of view – with a flickering light – is a highly appropriate metaphor for the way in which most archaeologists work. We recognise first those things that are most familiar to us (animals, statues), and our eyes are attracted by superficial signs of value (glinting gold), but we find it difficult to explain them convincingly to onlookers. The importance of understanding any individual's perspective is underlined by thinking about how and why Howard Carter came to be standing at that place at that particular moment (Reeves and Taylor 1992). Foreigners had access to the archaeology of Egypt because of European political domination, and this excavation was financed by a rich member of the British aristocracy indulging in a form of cultural activity that had become socially respectable and widespread from the eighteenth century. The pursuit of the tomb of a pharaoh, rather than the investigation (for example) of a peasant village, clearly reflected the concerns of the ruling classes. It also offered the possibility of personal fame and the acquisition of prestigious items for display in a public museum – a kind of institution that was itself a product of nineteenth-century ideas about art and education. We use this example as a metaphor for this volume; we aim here to express the excitement and mechanisms of doing archaeology, whilst also capturing the broader socio-political and ethical implications that emerge from how we practise as archaeologists in the past, present and future.

Acknowledgements

Many individuals and organisations in Britain and abroad have given help in providing illustrations; we hope that most of them have been acknowledged in the captions, but all deserve thanks for devoting time to looking out particular photographs or drawings for us. A number of people have also read or advised on parts of the text. In particular, we would like to thank the following people: Banji Adewumi, Ian Bailiff, Jo Buckberry, Stefano Campana, Stuart Campbell, Mike Church, James Cole, Simon Cox, John Creighton, John Curtis, Raksha Dave, Peter Davenport, Colin Davison/Segedunum Roman Fort Museum, Chloe Duckworth, Chris Gerrard, Becky Gowland, Vicky Green, Julia Greene, Vincent Guichard, Isobel Harvey, Elizabeth Healey, Vicki Herring, Neil Holbrook, Bob Johnston, Lewis Jones, Rosie Kenworthy, Greger Larson, Sam Lucy, Frances Mawer, Andrew Moore, Paola Moscati, Claire Nesbitt, Sheila Newton, Andrew Parkin, Peter Rowley-Conwy, Eberhard Sauer, Sarah Semple, Ellon Souter, Hanna Steyne, Steve Trow, Sam Turner, Christina Unwin, A. Wadsworth, Dave Webb, Rob Witcher.

Stuart Campbell, Rachel Crellin and Karina Croucher very kindly provided extensive feedback on early chapter drafts, along with immensely supportive comments and encouragement throughout the writing process. Thank you! For all their support and encouragement, Hannah would also like to thank Oliver Harris, Eleanor Baker and Helen McLeod, as well as students from the University of Manchester and on the Ardnamurchan Transitions Project who helped her think about how best to communicate what is written here. Hannah is also eternally grateful to Tim Westaway, without whose unerring patience, kindness and partnership, her involvement in the sixth edition would not have been possible. Hannah also thanks Lyra, Wilf and Bertie Westaway for being so supportive, and sharing their office with her! Finally, our grateful thanks go to Kate Fornadel, Matthew Gibbons and Manas Roy for their patience in seeing the volume to completion.

Referencing

This book aims not only to be an introduction to archaeology but to enable the reader to delve deeper into the debates and techniques of archaeology. Unlike many textbooks, we have referenced throughout the text and provided signposts to further reading. If you are about to become, or are already, a student of archaeology, you will recognise the need to 'reference your information' – it is one of the tenets of academia that you acknowledge where ideas and data come from. This also helps you explore the evidence and theories yourself so that you can construct your own opinions and arguments.

All categories of reference are listed, in alphabetical order according to their authors' names, in a consolidated bibliography at the end of the book. Three levels of information lead the reader from general to more specific publications and information sources.

1 Key references indicated beneath each heading within the text give, in alphabetical order, the author, short title and year of publication of the most useful books, chapters or journal articles on that particular subject. These should be consulted first.
2 Further reading sections, placed at the end of each chapter, are designed to lead the reader to more detailed publications, relevant journals, online resources and general works on related topics.
3 References within the text are given using the Harvard style (author/year/page, e.g. Crellin 2020: 123) and indicate specific publications that provide examples, case studies or other forms of supporting evidence for information or statements made in the text. The full sources of these references can be found in the final, alphabetically ordered bibliography at the end.

Glossary and index

Many important terms are indicated in **bold** throughout the text. Some of these terms are also included in the glossary (p. 385–402). Terms defined in the glossary are preceded by an asterisk in the index (for example '* anthropology').

Make good use of the table of contents and the index to locate topics you are interested in, and use cross-references within the text to find other pages with related information (for example 'above: p. 63').

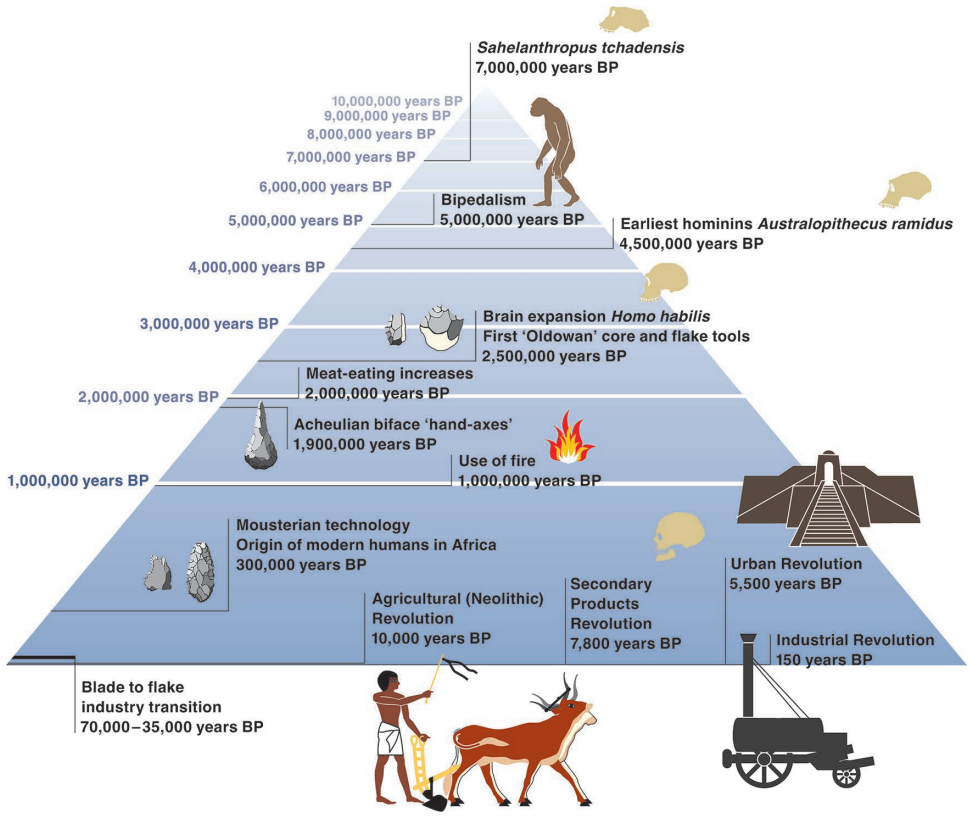


Figure 0.1 Timeline and major developments in the human past (drawn by Chris Unwin).

CHAPTER 1

The idea of the past

1

Our aim in this chapter is to show how some fundamental principles and methods emerged and combined to form the modern discipline known as archaeology. This has been the subject of several complete books, but we will attempt to map the development of archaeology in a wider intellectual context and look in more detail at some themes that are particularly important:

- Interest in landscapes and travel promoted the recognition and recording of ancient sites. Visits to sites, together with the habit of collecting ancient artefacts and works of art, eventually led to deeper investigations (with the help of excavation) of **early civilisations**.
- The study of **human origins** stimulated profound thinking about concepts of time and forged lasting links between archaeology and the natural sciences, notably biology and geology. It also underlined the importance of being able to identify and interpret **artefacts** made by early humans.
- The word '**prehistory**' was invented in the nineteenth century to describe the long period of human existence – undocumented in historical sources – revealed by newly developed archaeological methods. Later, these methods were applied to the study of other fundamental phenomena such as the **transition from hunting to farming** and the **origins of urbanism**.

These issues are not presented in a strict chronological sequence, and no clear line divides the history of archaeology from its present concerns. Indeed, we show that archaeology developed within a very specific intellectual context, largely driven by the voices and concerns of white, Western, wealthy and predominantly male perspectives. These perspectives have begun to shift through an awareness of the specific context in which archaeology developed. This, like many other topics introduced in Chapter 1, is discussed further in Chapters 6 and 7, which look at more recent trends in theory and interpretation.

1.1 THE INTELLECTUAL HISTORY OF ARCHAEOLOGY

- key references: Murray, *Milestones in archaeology* 2007; Schnapp, *The discovery of the past* 1996; Thornton, *Archaeologists in print* 2018; Trigger, *A history of archaeological thought* 2006.

It is important that the benefit of hindsight does not make us forget the constraints of the social and intellectual context in which **antiquaries** lived and worked. For example, in the early nineteenth century, the Danish scholars who first organised prehistoric objects into three successive Ages (Stone, Bronze and Iron) assigned them to a very short time span. In mid-seventeenth-century Britain, Bishop Ussher had used the Bible to calculate that the creation of the Earth took place in 4004 BC, and other estimates were not much earlier (Stiebing 1993: 32; Rowley-Conwy 2007: 6–7). Pressure from developments in geology and biology to adopt a much longer time scale did not finally displace the biblical scheme until the 1860s. The dating of prehistory underwent major revisions after the radiocarbon dating technique was introduced and accepted in the 1950s, while techniques such as potassium–argon dating

DOI: 10.4324/9781003041757-1

revealed that some of the earliest sites with tools made by **hominins** were much older than had previously been suspected (Chapter 4).

We may learn a great deal by examining how early antiquaries and archaeologists (the difference between the two will emerge later in this chapter) tackled the formidable problem of making sense of the human past without the help of the libraries, museums, travel and technical facilities available today. At the same time we should take care not to look only at the origins of ideas we still consider important and ignore the wider setting in which they were formulated. At the most fundamental level it is possible to see the whole idea of looking for the origins of things as a peculiarly Western intellectual diversion (Foucault 1970; Thomas 2004; Trigger 2006: 9–10).

We feel that it is important to place the development of archaeology within a broad intellectual, philosophical and historical framework; however, terms such as **Renaissance**, **Enlightenment** and **Romanticism** are less well known than they once were. **Table 1.1** places onto a chronological scale the labels used in this chapter to indicate the cultural, political, philosophical or religious context of a particular approach to archaeology; many of these labels were only invented in the nineteenth century

Table 1.1 Archaeology and the history of ideas

Intellectual or cultural phase	Date	Characteristics	Impact upon archaeology	Key names (those after '/' relevant to archaeology)
Classical	Ancient Greece and Rome	Philosophical and scientific outlook, particularly in Greece, embracing both the human and the natural/physical world	Collecting artistic objects, visiting sites, speculation about early human societies	Aristotle, Plato, Lucretius/ Herodotus, Pausanias, Tacitus
Late Roman/ Byzantine	Fourth century AD to fifteenth century AD	Christian theology emphasising lack of free will, preoccupation with truth against heresy	Perpetuation of the idea of the Roman Empire, collecting Christian relics, pilgrimage to holy sites	St Augustine
Islam	Seventh century AD onwards	Conquest and conversion of much of the Mediterranean Classical world, along with Persia and the East	Translation into Arabic of Classical Greek literature, especially on philosophy, medicine and science	Mohammed, Avicenna, Averroes
'Dark Ages'	AD 600–1000	Replacement of the western Roman Empire by kingdoms of Germanic origin; continuation of the scholarly Christian outlook still regarding Rome as its centre, particularly in Britain and France	Interest in Roman art, architecture and literature; relics and pilgrimage	Bede, Alcuin, Charlemagne
Medieval scholasticism	Eleventh to fourteenth century AD	Expanding interest in Classical intellectual heritage (especially Aristotle), scientific investigation; important background to the Renaissance	Rediscovery of ancient Greek philosophical and scientific writings preserved by Arab scholars	St Thomas Aquinas, Roger Bacon

Renaissance	Fourteenth to sixteenth century AD	Interest in humanism as well as theology, flowering of the arts (especially in Italy); broadening of horizons through European voyages of discovery	Recording of Greek and Roman buildings and inscriptions, study of Roman architecture to provide models for new buildings	Erasmus, Leonardo da Vinci/ Brunelleschi, Cyriac of Ancona
Reformation	Sixteenth to seventeenth century AD	Rejection of the authority of the Roman Church, greater emphasis on the individual; conflict between science and papal authority	Growth of national awareness in Northern Europe leading to studies of local sites	Luther, Calvin, Loyola (Counter-Reformation)/ Copernicus
Scientific Revolution	Seventeenth century AD	Rejection of Aristotle, investigation of the physical world by direct observation and experiment, particularly in astronomy; concept of scientific laws	Growing curiosity about ancient sites, recording them using mathematically sound surveying methods	Descartes, Hobbes, Galileo, Isaac Newton, Francis Bacon/ Aubrey
Enlightenment	Eighteenth century AD	As a result of the Scientific Revolution, increasing explanation of the world in rational rather than religious terms; profound philosophical interest in the evolution of human society; emphasis upon free will and rights	Expansion of scientific recording and classification of the natural world (including antiquities)	Diderot, Hume, Kant/Stukeley, Winckelmann
Romanticism	Late eighteenth to early nineteenth century AD	Reaction against Enlightenment rationality: emotional attraction to dramatic, wild landscapes and primitive peoples	Increasing national identity and interest in origins of modern nations; preference for 'Noble Savage' rather than 'brutish' image of primitive humans; interest in progress through ages	Rousseau, Schelling, Hegel
Positivism	Nineteenth to twentieth century AD	Continuation of Enlightenment preference for empiricism, naturalism and science rather than speculation; emergence of sociology	Intellectual atmosphere receptive to developments in geology and biology leading to evolutionary theory and the study of human origins	Comte
Evolutionism (Darwinism)	Nineteenth to twentieth century AD	Concept of natural selection added a new scientific dimension to long-held ideas about the evolution of organisms (including humans); transformed by development of genetics in the twentieth century	Extensively adopted as an analogy for explaining (and justifying) changes in societies (social Darwinism) and for the development of archaeological objects	Lamarck, Darwin, Herbert Spencer/ Pitt Rivers

Marxism (communism)	Nineteenth to twentieth century AD	Theory of social evolution derived from anthropology and ancient history that emphasised the economic basis of social structures, and the notion of revolutionary (rather than gradual) change	Particularly important in the twentieth century, when archaeologists reacted positively or negatively to developments in Russia, and highly influential in 'explaining' prehistory	Marx, Engels/ Childe
Nationalism	Nineteenth to twentieth century AD	Extension of Reformation and Romantic concepts into political action, frequently using evolutionary ideas about natural selection to include notions of racial superiority	Extensive archaeological work devoted to establishing connections between modern peoples or nations and 'ancestral' sites and artefacts	Hegel, Byron/ Kossinna
Modernism	Late nineteenth to late twentieth century AD	Culmination of the Enlightenment and positivist confidence in social progress and objective science	Fundamental to much archaeological work, especially the 'New Archaeology', up to the 1980s	Hegel, Marx/Binford, David Clarke
Structuralism	Early to late twentieth century AD	Intellectual movement that relates superficial phenomena such as language, myths, works of art and social institutions to the underlying structure of language	Particularly influential upon anthropology, and therefore upon archaeology	Saussure, Barthes, Lévi-Strauss/Hodder
Postmodernism	Late twentieth century AD	Breaking down of confidence in modernism and grand narratives of social evolution such as Marxism; related to poststructuralism, which denies fixed meanings, simple dichotomies and the pursuit of truths	Encourages a highly personal archaeological outlook that suspects that all interpretations based on supposedly objective observation are illusions reflecting prevailing power structures	Nietzsche, Lyotard, Foucault, Derrida/Meg Conkey, Joan Gero, Christopher Tilley, Julian Thomas.
New materialism/post-humanism and other approaches, such as 'symmetrical archaeology'. All of these are characterised as 'the ontological turn'	Late twentieth century to early twenty-first century AD	Questioning a human-centred view; breaking down the separation between humans and non-humans; examining relationships between people, and between people and things, and ways in which they affect each other	Encourages seeing humans and things as ontologically equal, emerging together in messy, multi-scalar assemblages and capable of affecting one another	Barad, Bennett, Braidotti, Delanda, Deleuze, Guattari, Haraway, Harman, Latour, Spinoza/ Chantal Conneller, Craig Cipolla, Rachel Crellin, Ben Jervis, Andy M Jones, Yannis Hamilakis, Oliver Harris, Gavin Lucas, Bjørnar Olsen, Þóra Pétursdóttir, Timothy Webmoor, Chris Whitmore

and are used for convenience. It is also important to emphasise that, in charting the development of archaeological thought, the contributions of straight, white, Western, able-bodied, **cisgendered** male archaeologists to these advances have, until very recently, been emphasised at the expense of all others (Díaz-Andreu and Stig-Sørensen 1998; Kehoe and Emmerich 1999: 117; Battle-Baptiste 2011; TrowelBlazers 2022). It is also true that this simplified account of intellectual history places Europe and America at its centre and carries the implication that everything on the chart happened as part of a linear evolution towards the present. Although most archaeologists today reject this kind of thinking and have demonstrated how it can cause all sorts of problems (which are explored in Chapters 6 and 7), it is nevertheless an important starting point for contextualising the discussion in this chapter.

1.1.1 Archaeology and antiquarianism, prehistory and history

- key references: Daniel and Renfrew, *The idea of prehistory* 1988; Pearce, *Visions of antiquity* 2007a; Rowley-Conwy, *From Genesis to prehistory* 2007; Sweet, *Antiquaries* 2004.

The concept of prehistory is perhaps the single most important contribution made by archaeology to our knowledge of humanity; furthermore, it is based almost exclusively on the interpretation of material evidence. The emergence of prehistoric archaeology in the nineteenth century, although it relied heavily upon natural sciences such as geology and biology, was a remarkable episode that changed people's ideas about themselves (Thomas 2004). Indeed, research into human origins in the nineteenth century did as much as the discovery of civilisations to establish public awareness about what was distinctive about archaeology as an intellectual pursuit. Early progress in the study of ancient Greece and Rome established the value of recording sites and artefacts as well as documents and inscriptions; the term **archaeology** was already being used in Jacob Spon's publications of his research in Athens and elsewhere in the seventeenth century (Etienne and Etienne 1992: 38–41). Nevertheless, most historical scholars gave the written word priority over physical evidence, and until quite recently considered archaeology inferior to the study of texts or works of art (Trigger 2006: 498).

Archaeologists still tend to be placed in one of two categories: prehistorians or historical archaeologists. This division is not particularly helpful, but it does distinguish the latter, who study people or places within periods for which written records are available, from the former, who are concerned with any period that lacks documents. Historical archaeologists usually possess a basic framework of dates and a general idea of the society of a particular period into which to fit their findings. In contrast, those who study **prehistory**, a concept only firmly established after 1850 (Clermont and Smith 1990; Rowley-Conwy 2007), have to create some kind of framework for themselves from artefacts and sites alone, normally with the help of analogies drawn from anthropology. The methods used by both kinds of archaeologist today are very much the same, and there is considerable overlap between their ideas and interests, including those who restrict the term 'historical archaeology' to a period beginning around AD 1500 (Hicks and Beaudry 2006). Historians who studied ancient Greece, Rome or the Bible could set out to locate physical traces on the ground of events and civilisations described in literature; this possibility was simply not available to other historians, natural scientists or collectors who tried to make sense of artefacts or graves surviving from times before the earliest existing written records in other areas, for example pre-Roman Britain.

In 1926 R.G. Collingwood, a British philosopher who combined academic philosophy with extensive involvement in archaeology, disputed the clear distinction generally drawn between history and prehistory:

> Strictly speaking, all history is prehistory, since all historical sources are mere matter, and none are ready-made history; all require to be converted into history by the thought of the

> historian. And on the other hand, no history is mere prehistory, because no source or group of sources is so recalcitrant to interpretation as the sources of prehistory are thought to be.
>
> (quoted in Van der Dussen 1993: 372)

Collingwood was influenced by his knowledge of the difficulties of linking the general history found in Classical documents to the physical remains encountered on Roman sites (and the problems in dating them). More recently, the division between history and prehistory, and the primacy ascribed to text, has seen a different kind of critical analysis which emphasises the problems of universalising Western thinking that emerge from colonialism. Carlos Mamani Condori, a Bolivian professor, researcher and campaigner for the rights of Indigenous communities in Bolivia, has argued that

> prehistory is a Western concept according to which those societies which have not developed writing – or an equivalent system of graphic representation – have no history. This fits perfectly into the framework of evolutionist thought typical of Western cultures.
>
> (Mamani Condori 1989: 51)

This argument has been reiterated in multiple contexts. Indigenous understandings of heritage and history that are conceived through intangible practices such as song, dance and story-telling have been shown to have equal – and often greater – importance in the creation of Indigenous knowledge of the past (e.g. papers in Supernant *et al.* 2020; Verdesio 2013). This issue will be revisited in Chapters 6 and 7; meanwhile, we should recognise that prehistory as a distinctive phenomenon seen through Western eyes is not a concept accepted throughout the world (Kehoe 1991b).

1.1.2 The problem of origins and time

- key references: Crellin, *Change and Archaeology* 2020; Lucas, *Archaeology of time* 2005; Lucas, *Making Time: The Archaeology of Time Revisited*, 2021; Murray, *Time and archaeology* 1999b; Rossi, *The dark abyss of time* 1984; Rowley-Conwy, *From Genesis to prehistory* 2007.

A quest for origin is only possible in an intellectual framework that has a linear concept of time that progresses from a beginning to an end, rather than going around in an endlessly repeating circle of life, death and rebirth (Gell 1992; Bintliff 1999). Recognition of the existence of a significant amount of time before historical records began was also essential before any attempt was made to understand it. Finally, people had to conceptualise using ancient objects, monuments and sites to explore prehistoric time. Many societies have developed sophisticated mythologies which, in association with religion, allow the physical environment to be fitted into an orderly system where natural features may be attributed to the work of gods. Artificial mounds, abandoned occupation sites and ancient objects were often associated with deities, fairies, ancestors or other denizens of the world of mythology, and explanations of this kind abound in surviving folklore. Many prehistoric sites in England have traditional names that reveal this background, for example the large standing stones in Yorkshire known as The Devil's Arrows.

For those early prehistorians who believed in a biblical Creation dating to 4004 BC, as calculated by Bishop Ussher, or by relating Roman and Greek historical documents back to the Old Testament (Rowley-Conwy 2007: 6–9), there was at least an upper limit to the age of any of the items that they studied. If not, an apparently insoluble range of questions was raised. Which sites and objects were in use at the same time, and how many years had elapsed between those that looked primitive and those that seemed more advanced? Did technical improvements represent a gradual series of inventions made by a single people, or did innovations mark the arrival of successive waves of conquerors with superior skills? The first step essential to any progress was a recognition of the amount of time occupied by human development in prehistory, and this advance took place in the first half of the nineteenth century. In the view of Bruce Trigger,

the liberation of archaeologists from this 'impasse of antiquarianism' had two distinct consequences. The first was the development of new dating methods in Scandinavia, and the second was the study of human origins in France and England, both of which 'added vast, hitherto unimagined, time depth to human history' (Trigger 2006: 121). We will examine dating methods in Chapter 4 and look at the more fundamental and dramatic issue of human origins later in this chapter.

Hesiod, in the eighth century BC, had talked of five Ages, from the Golden Age to the Iron Age. Roman philosophical poetry written by Lucretius in the first century BC contained ideas about the successive importance of stone, bronze and iron as materials for the manufacture of implements (Schnapp 1996: 332–3; below p. 23–27). Although this **Three-Age System** was widely accepted as a philosophical concept by AD 1800, it was not applied in a practical way to ancient objects until 1816 (Rowley-Conwy 2007: 37–8; below 24). Some individuals, such as the British **antiquarian** Thomas Wright, argued against its validity as late as the 1870s (Rowley-Conwy 2007: 2). It is difficult now for us to appreciate the basic problem that confronted historians or philosophers in literate societies right up to the eighteenth century AD. They were able to pursue their origins through surviving historical records, but beyond the earliest documents lay a complete void containing unverifiable traditions that merged into a mythological and religious world of ancestors and gods. Gould's thoughtful examination of the complex and varying concepts of time held by nineteenth-century geologists (1987) contains many surprises for anyone who had assumed that they rapidly adopted a 'modern' outlook. Indeed, the depth of archaeological and geological time is still grossly underestimated in the contemporary mythology of cartoons, in which prehistoric humans use stone axes or wooden clubs, wear simple animal-skin garments and have trouble with dinosaurs (**Figure 1.1**).

The fundamental problem of conceptualising chronology did not change significantly between the Greek and Roman period and the eighteenth century AD (Rossi 1984). If ancient sites and artefacts were considered at all, they were linked to peoples and events known from documents. Samuel Johnson expressed a view characteristic of an English scholar of the eighteenth century: 'All that is really known of the ancient state of Britain is contained in a few pages. We can know no more than what old writers have told us' (quoted in Trigger 2006: 119).

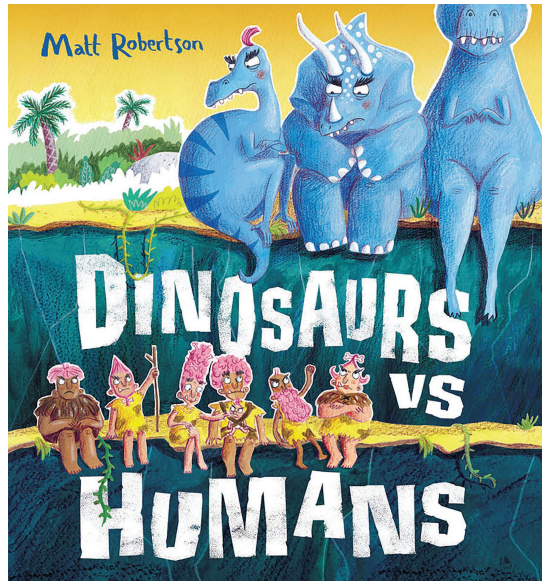


Figure 1.1 Contemporary Western pop culture is full of stories set in the past in which humans compete for survival with dinosaurs, from films like *One Million Years* BC (Hammer Films, Ltd., 1968), to cartoons like *The Flintstones* (Hanna-Barbera Productions, 1960–1966), and to children's books like Robertson's *Dinosaurs vs Humans* pictured here. Ideas about human origins and early development amongst archaeologists, biologists and evolutionary psychologists are still debated, but all agree that dinosaurs had been safely extinct for many millions of years before human life began.

(Image source: Orchard Books, 2019 – reproduced with permission of the licensor through PLSclear).

1.2 THE EMERGENCE OF ARCHAEOLOGICAL METHODS

- key references: Díaz-Andreu, *A world history of nineteenth-century archaeology. Nationalism, colonialism, and the past* 2007; Murray, *Milestones in archaeology* 2007; Romer and Romer, *Great excavations* 2000; Schnapp, *The discovery of the past* 1996; Schofield,

Great excavations: shaping the archaeological profession 2011.

1.2.1 A prehistoric concern for prehistory

Contemporary recognition of the multiple ways in which Indigenous knowledge is created, such as the arguments made by Mamani Condori (1989) and others, points to the fact that in societies without writing, a concern with knowing and understanding past peoples still existed. Archaeological evidence from across Europe indicates that this was also the case throughout prehistory. Examples from the Upper Palaeolithic onwards show that people deliberately engaged with and used or re-used sites and material culture that pre-dated their own. Conneller (2011), for example, has highlighted how Palaeolithic societies were fascinated with the presence of fossilised shells within rocks, which they then curated and made into artefacts, pendants and more. Meanwhile, the siting of Neolithic tombs and houses in close association with Mesolithic material culture is notable in a number of places in Europe (e.g. Boric 2008; Benson and Whittle 2006) and indicates an explicit concern with those who had come before. We can extend this to whole landscapes. The Stonehenge landscape, in Southern Britain, for example, contains evidence for complex ritualised practices that spanned from the Mesolithic through to the end of the Bronze Age (Parker Pearson *et al.* 2020). Elsewhere, Hingley's detailed study of Atlantic Scotland shows an extended tradition of later prehistoric people re-using and re-inventing Neolithic sites and material culture (Hingley 1996). The early historical period work by Williams (1998) and Semple (1998) has highlighted the importance of re-using sites in Anglo-Saxon ideology. A similar fascination is also present amongst the Vikings, whose famous twelfth-century runic inscriptions in the main chamber at the Neolithic chambered tomb of Maes Howe (Barnes 1994) (**Figure 1.2**) are just one of many examples of the Viking re-use of prehistoric sites, both in the UK and Scandinavia (Lund 2022).

Figure 1.2 Twelfth-century Viking runes inscribed on the central chamber of the Neolithic (second millennium BC) tomb of Maes Howe, Orkney. There are thirty inscriptions within the tomb, making this one of the largest known collections of runic inscriptions into stone. This image is from work by a team from the Universities of York and Glasgow who have undertaken reflectance transformation imaging (RTI) of the runes (although this picture is not an RTI image). RTI, discussed further in Chapter 3, is a computational photography technique that uses shadows and reflections to create detailed surface images, highlighting incisions such as these in more detail than a standard image.

(Image source: Smith *et al.* 2018, Fig 2, CC0).

1.2.2 Greece and Rome

- key references: Blundell, *The origins of civilisation in Greek and Roman thought* 1986; Hall, *Inventing the barbarian* 1989.

Although archaeological evidence confirms that people have always been interested in what came before them, it is not until the advent of writing that we get a fuller insight into the methodologies

that some cultures employed for understanding both other contemporary cultures and those that had gone before them. Greek and Roman culture and commerce grew from modest origins but eventually embraced the whole Mediterranean region as well as parts of its hinterland. Something akin to anthropology (rather than archaeology) existed in ancient Greece. Greek writers such as Herodotus, Posidonius and later Strabo wrote accounts of encounters with 'barbarian' (i.e. non-Greek) peoples such as the 'Celts' in Iron Age Europe, whom they described as heavy drinkers and head-hunters (Collis 2003). This curiosity stemmed from their interest in the origins of their own society and political system. On a more practical level, Greek and Roman observations were useful to other travellers and colonial administrators. Such ideas were taken up again with enthusiasm during the Renaissance by Cyriac of Ancona, William Camden and John Leland (**Box 1.2**) and advanced to a stage where travel and observation developed into archaeological fieldwork.

In the Roman period, Julius Caesar described life in Iron Age Gaul in the 50s BC (Raaflaub and Strassler 2017; Riggsby 2006), and Tacitus wrote an interesting account of the Germans in the late first century AD (Rives 1999). It was not just scientific curiosity that motivated Tacitus' description of the simple life and virtues of these barbarians, however; he wished to make a political point by contrasting them with the corruption of Roman society. His *Germania* is an early example of the **Noble Savage myth**, a philosophical and literary concept that regained popularity in the eighteenth century in the writings of Rousseau and was deployed in colonial, racist theories about Indigenous communities for a long time (Ellingson 2001). Unlike his Greek predecessors or Caesar, Tacitus made no attempt to gather first-hand information by travelling among the Germans. He embellished and updated Greek writings with information from army officers and civil servants from his own social circle who had held appointments on the frontiers of the Roman Empire.

Collections of antique objects were not uncommon in the past, from Babylon in the sixth century BC to the civilisations of Greece and Rome, although many were prized more for their religious or symbolic value than for their potential as sources of information about the past (Trigger 2006: 43–8). Romans collected Greek sculptures and appreciated stages in the historical development of art and architecture. Tourists had already begun to visit ancient monuments, not only in Italy and Greece but also in Egypt. The emperor Hadrian (AD 117–38) is a good example of a traveller and collector: during official tours of the empire he visited ancient Greek shrines and restored or completed Greek buildings. He designed a country villa inland from Rome at Tivoli that housed a library and a collection of Greek sculptures, and incorporated gardens and lakes reminiscent of places he had visited in Egypt and Greece. Hadrian even adopted a new curly hairstyle and a beard in the manner of Greek philosophers, in contrast to the severe clean-shaven and short-haired appearance of his predecessors (**Figure 1.3–1.4**). A few years after the death of Hadrian, Pausanias – a wealthy Greek traveller and geographer from Asia Minor – wrote a guidebook, *Description of Greece*, that remained indispensable to anyone studying the art and architecture of ancient Greece at first hand up to the nineteenth century (Adcock *et al*. 2001; Pretzler 2007).

The antiquarianism of the Classical world had not developed any further before it was swept away by the political and economic problems of the third and fourth centuries AD. The western half of the Roman Empire gradually disintegrated and was invaded and settled in the fifth and sixth centuries AD by Goths, Franks and Anglo-Saxons – the descendants of Tacitus' Germans. Roman culture did survive to a certain extent under the rule of Germanic kings, and it did of course continue in the (Byzantine) eastern Roman Empire (Angold 2001). However, the Classical inheritance was modified or displaced by the growing importance of Christianity, which paid more attention to contemporary theology and the Bible than to the pagan Classical past.

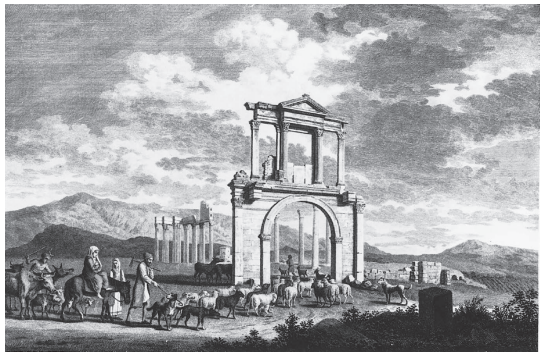


Figure 1.3 Behind the Arch of Hadrian, Athens, is the Temple of Zeus Olympius, which was begun in the sixth century BC but completed by the Roman Emperor Hadrian in the early second century AD as part of his informed enthusiasm for ancient Greek culture and architecture.

(Image source: Stuart and Revett 1794: chapter 3 pl. 1).

Figure 1.4 Hadrian adopted the beard and curly hair associated with Greek philosophers in contrast to the short straight hair and clean-shaven appearance of his predecessors. This can be seen in this bust of the emperor from Hadrian's Villa at Tivoli, dating to AD 117–18, now held at the British Museum.

(Image source: Following Hadrian, CC BY-SA 2.0 https://creativecommons.org/licenses/by-sa/2.0, via Wikimedia Commons).

1.2.3 Medieval attitudes to antiquity

- key references: Bahn, *Cambridge illustrated history* 1996b: 7–13; Murray, *Milestones in archaeology* 2007.

For most of its history, Christianity was founded on total belief in the Bible; to doubt its word offended not only God, but also the political organisation of Church and State that enforced its acceptance. Thus, independent thinking was discouraged by both intellectual and social circumstances, and new ideas were likely to be treated as heresy (Kelley 2002). In particular, archaeological speculation was hampered by the account of the Creation given in the Old Testament, together with a description of the subsequent settlement of known lands by descendants of Adam and Eve. The credibility of the Bible was enhanced by the fact that it also contained episodes set in contexts with independent historical records, such as Pharaonic Egypt or the early Roman Empire. In the Islamic world, things were a little different, with the historian and philosopher Ibn Khaldun (1332–1406) developing relatively complex theories on the development of civilisations (Simon 2002).

Some aspects of antiquarianism found in the medieval Church are superficially similar to those associated with Romans such as Hadrian, but on closer inspection are usually found to be motivated by religion. **Tourism** was common, in the form of pilgrimages to ancient shrines, as was the collecting of manuscripts and relics (Elsner and Rutherford 2005). Many travellers combined both activities; collections of relics enhanced the status of churches as centres for pilgrimage, and good libraries improved the reputation of monastic centres of learning. Since monastic libraries often contained the works of some of the more inoffensive pagan Latin and Greek authors, educated ecclesiastics could gain some knowledge of the Classical world and its culture. Indeed, early Christian monasteries in Northumbria and Ireland provided educated scholars who took part in the Carolingian Renaissance around AD 800 in northern France. Ancient Greek authors became

increasingly familiar in western Europe in the twelfth century AD, thanks to the translation into Latin of important Greek manuscripts. Many of these had only survived because of their interest to Arab scholars in former parts of the Roman and Byzantine Empire that were absorbed during the rise of Islam. A medieval bishop of Winchester made a purely aesthetic collection of Roman antiquities in the twelfth century, including at least one ship-load of marble sculptures from Rome itself; his interest presumably resulted from visits to Italy and knowledge of the works of Roman authors such as Pliny and Vitruvius on art and architecture. Historians of the Middle Ages (such as Geoffrey of Monmouth, who died c. 1155) filled out early periods of British history with fantastic tales of mythological and real figures such as Brutus the Trojan, King Arthur and Julius Caesar (Crick 2004). Later writers tended to associate ancient monuments with Romans or Danes rather than Trojans or Druids, but a concept of the great depth of prehistoric time was still elusive. In Ireland, medieval topographical lore (the *dinnseanchas*) dating from eleventh-century AD manuscripts, but which may have their origins much earlier, allowed the identification of ancient places which were undoubtedly archaeological monuments. One such document provides a detailed account of the ceremonial complex of Tara which, in the nineteenth century, could be relatively accurately related to the standing monuments (Wardell 2005: 15–17). However, such accounts were as much about the creation of mythologies of these places and landscapes as about the recording of archaeological monuments.

1.2.4 From medieval humanism to the Renaissance

- key references: Bahn, *Cambridge illustrated history* 1996b: 21–47; Etienne and Etienne, *The search for ancient Greece* 1992; Moatti, *The search for ancient Rome* 1993; Payne, Kuttner and Smick, *Antiquity and its interpreters* 2000; Trigger, *History of archaeological thought* 2006: 48–61.

Although the western Roman Empire broke up in the fifth century AD, in the east it resisted centuries of attacks and became the Byzantine Empire. Most of its Mediterranean and Southwest Asian territory was soon lost, but the legacy of Roman rule survived in decreasing areas of Greece and Asia Minor until the capture of Constantinople by the Turks in 1453. However, the civilisation that had emerged from the ruins of the former eastern Roman Empire was very much a Greek Christian culture. Much of Greece was ruled by Italian states in the final years before the Turkish conquest, but they took little interest in its ancient monuments. In western Europe, monastic scholarship gradually drew upon a wider range of ancient Greek and Roman writers until the rediscovery of pagan philosophers such as Aristotle inspired new interest in science and the natural world during the phase known as medieval humanism. The physical heritage of ancient Rome was understandably of particular interest during the fourteenth- to fifteenth-century Italian Renaissance (a term invented by French art historians in the nineteenth century). Scholars, artists and architects turned to pre-Christian Roman sources for largely forgotten ideas and new inspiration – for example by imitating Roman building practice in completing the new cathedral at Florence with a Classical dome rather than a Gothic spire. The monuments of the city of Rome itself were studied by Cola di Rienzo and Giovanni Dondi in the fourteenth century and by Poggio Bracciolini and Flavio Biondo in the fifteenth, using every possible source of written evidence to elucidate the physical remains (Moatti 1993: 25–52). Nevertheless, during this period of enthusiastic recording, Roman structures were frequently demolished to provide stone for new buildings. In some ways, the Renaissance attitude towards the examination of the past resembled that of the Romans, for it involved travel, the study of buildings and the collection of works of art and manuscripts.

One scholar with this outlook who looked beyond Italy to Greece and even Egypt was Cyriac of Ancona (Etienne and Etienne 1992: 24–29; Bodnar and Foss 2003). Cyriac was born

in 1391, well before the fall of Constantinople, which still held great symbolic significance for him as the last remnant of ancient Roman political power. He spent twenty-five years of the early fifteenth century in Greece, visiting sites and libraries for himself and publishing commentaries on his observations; unfortunately, not all of these survive. Cyriac embodied some of the principal components of a modern archaeologist, notably the active recording and study of physical remains of the past, whether sites or objects, through extensive fieldwork. In addition, as a historical archaeologist, Cyriac carried out his research with the help of the literary background of the culture that he investigated. On the negative side, Cyriac displayed a typically selective attitude to what he recorded, and failed to comment upon changes that had affected the condition of Athenian monuments (McNeal 1991: 52).

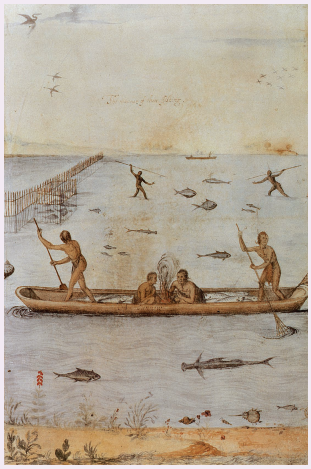
The Renaissance atmosphere of discovery and speculation gradually spread to the rest of Europe, including areas in the north connected only briefly with the Classical world (such as Britain) or not at all (much of Germany and Scandinavia). In these countries the same spirit of inquiry was also directed towards the non-Classical past, and the first steps began to be taken towards developing the methods of prehistoric archaeology. Some of this research was undertaken by individuals whose means did not permit them to travel widely in southern Europe. Thus, most advances in archaeological methods occurred in northern Europe, and the ideas fostered on the fringes of the Classical world were only applied to sites in Greece and Southwest Asia much later.

The many voyages of discovery from Europe that began shortly before AD 1500 confirmed by direct observation that the Earth was not flat, but spherical – as mathematical astronomers claimed, and as was widely accepted in ancient Greece. European contact with North and South America revealed an extraordinary range of different societies, from hunter-gatherers to city dwellers. It became increasingly difficult to reconcile such discoveries with the authority of the Bible, with its story of the peopling of the Earth by the descendants of Noah's family who had survived the Flood. A book published in 1655 by a French Protestant theologian, Isaac de Lapeyrère, proposed that Adam was simply the 'father of the Jews, not of all men' (Schnapp 2006). His views were founded upon knowledge of the ancient civilisations of Southwest Asia and the first Western encounters with Indigenous populations elsewhere in the world. De Lapeyrère was forced to recant by the Inquisition, and his book was publicly burnt in Paris (Schnapp 1996: 224–31). Many must have sympathised with his views, but they could not be examined further until developments in geology and biology in the nineteenth century allowed archaeologists such as Jacques Boucher de Perthes to propose the existence of antediluvian (i.e. before the Flood described in the Bible) tool-using humans by observation and fieldwork (below: p. 30–31). However, reports of 'savages' encountered by European traders and colonists in Africa or the Americas offered a new possibility for understanding the way of life of ancient peoples. Whilst today we recognise the problems in this approach, at the time, English and French antiquarians who were familiar with Julius Caesar's account of his military expeditions in Britain and Gaul drew similarities between the societies and activities of the indigenous inhabitants of North America and the 'Ancient Britons' (**Box 1.1**; Smiles 1994; Hingley 2007; Olivier 1999).

Thus, the Renaissance interest in pagan Classical literature, combined with geographical discoveries in other parts of the world, had created a favourable atmosphere for archaeological work. After the Renaissance, the religious upheaval of the Reformation encouraged sentiments of nationalism, as many countries – particularly those in northern Europe – broke the long tradition of dependence on a church organisation based in far-away Rome. National consciousness enhanced the interest of searching for the origins of peoples such as the Celts, Germans or Slavs (Sklenár 1983: 24–28) and of nationally unifying characters in the past (Hingley 2007). Herodotus and Tacitus had written about 'primitive peoples' who lived on the fringes of the Greek and Roman world, including Germany and Britain. These countries were now

BOX 1.1

The past in the present: developing analogies with the Americas



(Image source: Bridgeman Images)

From the sixteenth century onwards, contact between European colonisers and the Indigenous peoples of the Americas led to significant developments in concepts of the past. Artists such as John White created images of the past peoples of Europe based on drawings (such as that pictured here) of Indigenous peoples encountered in North America. Comparisons were made between the appearance of contemporary Native American tribes and the 'painted Picts' of Britain's distant past, who had been described (but not illustrated) by Roman and early medieval writers (Pratt 2005). Stone tools brought back to Europe by travellers suggested the possible uses of those found in Europe (p. 22–23). Parallels of this kind helped to justify the interpretation of such objects as artefacts made by humans, rather than thunderbolts or other natural or mythological phenomena. The observation of peoples who were still living in a manner comparable to that of the prehistoric past, in contrast to European lifeways, also contributed to the development of ideas about social evolution. Ethnographic observations of Indigenous peoples elsewhere in the world by Europeans were framed in terms of linear, Western ideas of social and industrial development. Thus, they underpinned concepts of racial superiority amongst Europeans when ideas derived from biological evolution became more widespread in the nineteenth century.

involved in Renaissance scholarship and religious Reformation, and followed the precedent set by ancient authors in investigating the 'primitive' state of Europe; a study of Lapland published in the 1670s by John Shefferius (a Swedish professor of law) was inspired by Tacitus' *Germania*. Since Indigenous communities such as the Lapps were not easily accessible for study, the alternative was the examination and description of archaeological remains – a more complicated task in northern Europe than in Mediterranean countries, where research was dominated by Classical sites recorded in documentary sources. The classification and explanation of prehistoric earthworks, tombs and artefacts offered a greater challenge because of the lack of direct historical evidence. Mendyk's study of the progress of antiquarian study up to AD 1600 in Britain relates it closely to new interests and methods generated by the Scientific Revolution: 'During our period of study these remained under-developed … but a start was made; experimentation, collection, and observation of material was required in the first stage, and only then could one hope to arrive at sound generalisations or theories' (Mendyk 1989: xiii).

1.2.5 Archaeology and the Enlightenment

- key references: Bahn, *Cambridge illustrated history* 1996b: 48–79; Thomas *Archaeology and Modernity* 2004; Wilson, *Encyclopedia of the Enlightenment* 1996.

The Enlightenment was the culmination of increasing separation between science and religion among many philosophers of the eighteenth century AD. This rift had been developing since medieval humanists began to use the writings of Greek philosophers such as Aristotle in which ideas of biological and **social**

evolution were already emerging (Blundell 1986: 73–97). One important shift in outlook in this new secular period was a revision of the biblical view that humans had degenerated since the expulsion of Adam and Eve from the Garden of Eden. The rapid economic and technological development that was going on in Europe encouraged an alternative idea, involving progress in human material, intellectual and spiritual culture (Pluciennik 2006; Trigger 2006: 100). This was reflected in the work of philosophers such as Rousseau and Hume – rather than antiquaries – who incorporated reports of 'primitive' cultures into their attempts to define stages of social evolution. The adoption of an evolutionary frame of mind clearly encouraged both philosophers and scientists to accept the implications of new investigations into geology, biology and artefacts. Not everyone saw progress as a linear phenomenon of improvement or degeneration, however; although largely overlooked in his own time, Giambattista Vico (1668–1744) envisaged stages of human society as dynamic phases in a repeating cycle. This idea was a fundamental component of views expressed much later by Hegel and Karl Marx (Blackburn 2016). Thus, by the early nineteenth century, European scholars had finally come into possession of a range of essential concepts suitable for confronting the problem of the prehistoric origins of humanity (below: p. 27). Meanwhile, many antiquaries had adopted the habit of making careful records of archaeological sites as part of a broader scientific interest in the natural environment, even though few of these sites could be dated (Sweet 2004).

1.2.6 Antiquarian fieldwork

- key references: Mendyk, *Speculum Britanniae* 1989; Piggott, *Ancient Britons and the antiquarian imagination* 1989; Sweet, *Antiquaries* 2004.

Sixteenth century: chorography and recording

The work of antiquaries who engaged in active field archaeology in Britain illustrates the aims and concepts of research into the past undertaken after the diffusion of Renaissance thinking into northern Europe. Before the sixteenth century, historical writers occasionally referred to monuments, but with little purpose other than to display sheer wonder, or to add circumstantial detail to some actual or invented episode in their works. For example, a recognisable illustration showing Stonehenge being built by the magician Merlin appeared in a fourteenth-century British manuscript (Bahn 1996a: 9; **Figure 1.5**), and another early image was recently discovered in

Figure 1.5 One of the earliest known images of Stonehenge is found in a copy of Wace's *Roman de Brut*. This was originally written in the 1100s (itself an adaptation of Geoffrey of Monmouth's *Historia Regum Britanniae*), but this copy was made in Britain between 1338 and 1340. The manuscript tells the story of how Stonehenge was constructed, and the image shows Merlin and a giant either building Stonehenge or taking the stones down from a site in Ireland to bring them to England (British Library 2014).

BOX 1.2

William Camden (1551–1623)

A portrait of Camden.

(Image source: Rijksmuseum, CC0 1.0).

William Camden was born in London and spent much of his life at the University of Oxford and Westminster College. His book *Britannia*, published in 1586, combined observations made while travelling throughout England and Wales with information gathered by examining archives. His emphasis on the importance of the Roman occupation linked Britain to the continental centres of the Renaissance and gave Britain a respectable position in European culture. Camden also attempted to use the unity of Britain as a Roman province for political purposes by supporting the formation of Britain into a united kingdom in his own day (Hingley 2007). Camden's descriptions of antiquities were thorough and detailed, and sections on Roman and pre-Roman coinage and language were also included. The founding of Britain was no longer attributed to unlikely or imaginary individuals and peoples (such as Brutus the Trojan, or the Phoenicians); instead, greater reliance was placed on references contained in Classical sources, and analogies from the New World. Camden's interest in material culture, and his recognition of the part it could play in elucidating the past, was fundamentally important. His *Britannia* enjoyed great popularity, and its careful organisation allowed additions to be made for nearly two hundred years after Camden's death.

a French manuscript (Heck 2007). The Tudor dynasty of the sixteenth century coincided with an increase in national consciousness, underlined by the Reformation and the establishment of the Church of England. John Leland (1506–52) was Keeper of the King's Libraries for Henry VIII, and on his travels recorded ancient sites such as Hadrian's Wall. William Camden (**Box 1.2**; 1551–1623; Murray 1999b: 1–14) was another royal employee who travelled extensively; his *Britannia*, published in 1586, was the first general guide to the antiquities of Britain. John Aubrey and William Stukeley were important later examples of individuals – described by their contemporaries as antiquaries, or more rarely **chorographers** (Mendyk 1989: x) – who paid systematic attention to field monuments in Britain from the sixteenth century onwards (Broadway 2012).

Seventeenth century: scientific antiquarianism

- key references: Broadway, '"Ocular Exploration, and Subterraneous Enquiry": developing archaeological fieldwork in the mid-seventeenth century' 2012; Jackson, *The Antiquary: John Aubrey's Historical Scholarship* 2016; Murray, *Encyclopedia of archaeology* 1999a: 15–26; Trigger, *History of archaeological thought* 2006: 106–14.

John Aubrey (1626–97) lacked the depth of education of Leland or Camden, but participated in a new kind of scholarship that came to prominence in the **Scientific Revolution** of the seventeenth century. It was characterised by a desire to approach any subject from a sound basis of classification and comparison, whether astronomy, medicine, botany or antiquities. In addition to antiquities, Aubrey included natural and artificial phenomena in accounts of his beloved Wiltshire. His great archaeological work *Monumenta Britannica* was never published, but fortunately the manuscript was donated to the Bodleian Library, Oxford, where it was examined by many later antiquaries. The first part is best known because it focused on the great prehistoric monuments of Wessex, including Stonehenge, Silbury and Avebury. Aubrey was one of the first

to assign these sites to the pre-Roman Celts and their priesthood, the Druids, who were known from the writings of Tacitus and other Roman authors. On the instructions of King Charles I, he made an excellent plan of the remarkable ditched enclosure at Avebury and its surviving internal stone circles, probably making use of new surveying instruments that had been developed by the seventeenth century (Welfare 1989).

To Aubrey, information was worth collecting and classifying for its own sake, rather than simply to illustrate a particular theory. A similar approach is found in the work of contemporaries in fields such as botany or the study of fossils (Hunter 1975: 95–7). Aubrey's observations and interpretations also reveal awareness of descriptions of Indigenous American peoples. He did not share an idealistic 'Noble Savage' view that might have resulted from reading the *Germania* of Tacitus:

> The inhabitants (of northern Wiltshire) almost as savage as the Beasts whose skins were their only rayment. . .. They were 2 or 3 degrees I suppose less savage than the Americans. . .. The Romans subdued and civilized them.
>
> (quoted in Piggott 1989: 62)

Clearly, Aubrey shared Camden's view that the Roman occupation of Britain raised its status in the eyes of post-Renaissance scholarship (Hingley 2007).

Aubrey was not able to solve the conundrum of dating ancient monuments. Although he was right to place Stonehenge and Avebury into a ritual context of pre-Roman date, he attributed Iron Age hillforts to Britons, Romans or Danes with wild inconsistency (Piggott 1989: 118–20). However, Aubrey's work made a great impact upon the best-known antiquary of the eighteenth century – William Stukeley (**Figure 1.6**).

The contemporary Welsh antiquarian Edward Lhuyd (or Llwyd) (1660–1709) was instrumental in developing awareness of the archaeology of the British Isles beyond England. His *Archaeologia Britannica* recorded archaeological monuments in Wales, Ireland, Scotland and Cornwall through systematic first-hand recording, being, for example, the first to record the impressive Neolithic monument at Newgrange in Ireland, and recording many early medieval sites in Wales (Wardell 2005: 52; N. Edwards 2007). Combining an expertise in linguistics with archaeology, Lhuyd was influential in suggesting that these regions of the British Isles were unified by similar languages

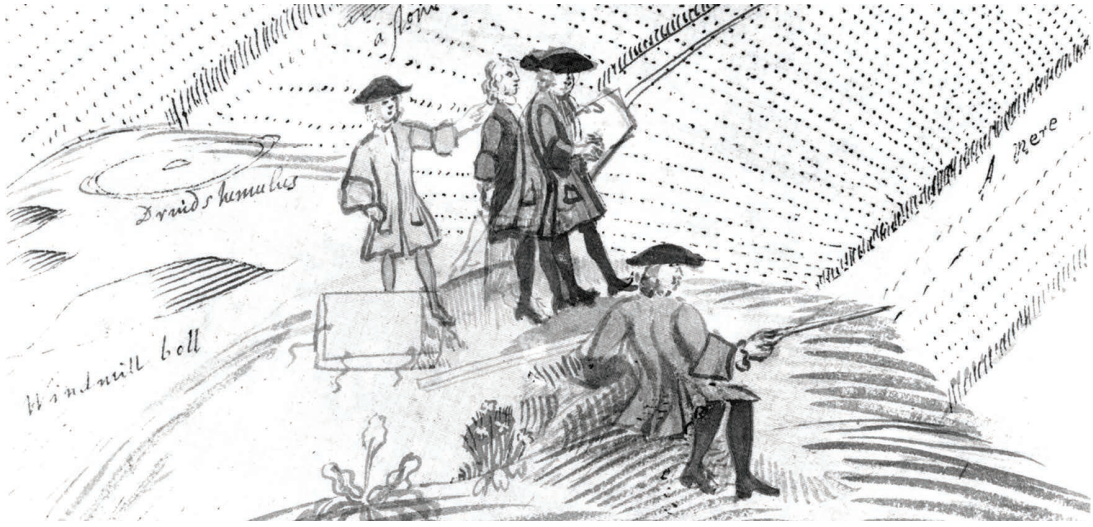


Figure 1.6 A drawing by William Stukeley (1687–1765) showing him engaged in fieldwork with friends. Even in this light-hearted sketch, a number of antiquities and features of the landscape are drawn and labelled; his observations and plans remain an important source of information.

(Image source: Bodleian Library, Oxford: Ms Eng. Misc. b 65 fol. 43r.).

and histories, which reflected their 'Celtic' heritage (James 1999: 45–7). This suggestion was developed later by archaeologists and has led to much controversy in recent years about whether these regions really should be defined as 'Celtic' on the basis of Iron Age archaeology (James 1999; Collis 2003: 49–56, 2017; Pope 2022).

Eighteenth century: the antiquaries

- key references: Murray, *Encyclopedia of archaeology* 1999a: 39–50; Piggott, *William Stukeley* 1985; Schnapp, *The discovery of the past* 1996: 212–18; Sweet, *Antiquaries* 2004.

Although the eighteenth-century Enlightenment favoured Classical literature, art and architecture, it also engendered reactions against a purely rational and secular outlook. By the nineteenth century this had resulted in a Romantic movement which preferred fanciful 'Gothic' buildings incorporating medieval features, and which glorified non-Western Indigenous people as 'primitive' and 'exotic'. William Stukeley reflected these changes in the spirit of the age; his interpretations of sites such as Stonehenge, and their association with 'primitive' religion, were very much in tune with the sentiments of Romanticism (Peterson 2003). These interpretations never affected the quality of his fieldwork, however.

William Stukeley (1687–1765) was trained in medicine at Cambridge but had also studied botany. The ancient monuments in the countryside captured his imagination, especially after reading the manuscript of Aubrey's *Monumenta Britannica* in 1718. Extensive fieldwork in Wessex followed in the 1720s, including accurate and thorough surveys of Avebury, Stonehenge and Silbury. He went on to travel extensively throughout Britain, making surveys and excellent sketches. His Romantic leanings are evident in a taste for dramatic landscapes, such as the Lake District, and for Gothic architecture (to the extent of designing mock-ruins or 'follies'). His professional life changed direction in the 1720s, from medicine to religion.

From this point Stukeley attempted to use the results of his collected fieldwork from Wessex to establish a theological connection between the Druids and Christianity. Aubrey had made observations, sorted them into a sensible order and drawn limited conclusions from common sense and historical information; Stonehenge and its related monuments did not fit into the Roman period, so he attributed them to the pre-Roman Britons. Since the sites were apparently ritual rather than functional, Aubrey assigned them to the only known cult and priesthood attested by Classical authors, the Druids. Stukeley went on to invent a vast theological system for the Druids, supported by quite unwarranted connections with features of the monuments: 'The form of that stupendous work (Avebury) is the picture of the Deity, more particularly of the Trinity'. He published two major books – *Stonehenge* (1740) and *Avebury* (1743) – which he intended to be part of a larger enterprise entitled *Patriarchal Christianity or a chronological history of the origin and progress of true religion, and of idolatry*.

Stukeley's basic evidence still forms an invaluable record of monuments that have suffered severe damage since his day. He recorded an avenue of stones leading from Stonehenge to the River Avon that was subsequently destroyed; it was only relocated by aerial photography in 1920 (Piggott 1985: 92) and excavated in the early 2000s (Parker Pearson *et al.* 2020). A long-doubted second avenue was rediscovered in 1999 (Gillings *et al.* 2010). Stukeley did not just record individual sites but placed separate earthworks in an area into a coherent pattern (Schnapp 1996: 216–17). He also made analytical observations, such as deducing that some 'Druid' burial mounds on Oakley Down, Dorset, must already have been in existence before the construction of a Roman road which cut across the ditch of one of them (Piggott 1989: 27). Stukeley expressed another role for fieldwork that echoes modern **rescue archaeology**: it 'perpetuates the vestiges of this celebrated wonder & of the barrows avenues cursus &c for I foresee that it will in a few years be universally plowed over and consequently defaced' (quoted in Piggott 1989: 127). His approach to the landscape, seeing sites such as Avebury as part of a wider social landscape, also anticipated more recent approaches to landscape archaeology, such as **phenomenology** (Peterson 2003; see Chapter 6).

From a methodological point of view, field archaeology could not make substantial progress in Britain beyond the point reached by Stukeley until some new element was introduced. Accurate recording was continued and extended, but the interpretation of recorded monuments remained static because historical evidence barely stretched back beyond the Roman period. Historical events could be shuffled into a different order, or fanciful theories could be constructed to expand them, but no new source of evidence was available until the idea of excavation was adopted on a large scale in the nineteenth century and refined in the twentieth; this development is discussed further below, and in Chapter 3.

Historians of ideas, science or archaeology can point to early antiquarian work throughout Europe. In Scandinavia, Johan Bure and Ole Worm undertook antiquarian research – with royal patronage – in the early seventeenth century (Schnapp 1996: 156–65), and similar efforts were devoted to Roman and earlier antiquities in central Europe (Sklenár 1983: 6–43). A German pioneer of the systematic investigation of Roman art and architecture in Italy, Johann Winckelmann, was a near contemporary of Stukeley (Schnapp 1996: 258–66; Murray 1999b: 51–64).

1.2.7 Antiquarianism in the Americas

- key references: Díaz-Andreu, *A world history of nineteenth-century archaeology. Nationalism, colonialism, and the past* 2007; Kehoe, *The land of prehistory: a critical history of American archaeology* 1998; Malina and Vasícek, *Archaeology yesterday and today* 1990; Schnapp, *The discovery of the past* 1996: 142–65, 198–212; Sklenár, *Archaeology in central Europe* 1983.

An archaeological tradition had also emerged in America by the nineteenth century (Trigger 2006: 177–89). It began with ethnographic accounts of Native Americans, but gradually extended to sites and artefacts. The literate civilisations of Central and South America attracted comment as early as the sixteenth century, because their architecture, sculpture and inscriptions offered the same kind of possibilities for study as those of Greece or Italy. The King of Spain commissioned reports on the Mayan palace at Palenque in 1785–6, and Antonio del Río organised forest clearance to reveal monuments for recording – and then tore out decorated items to send back to Madrid for King Charles III, who had already financed excavations in Pompeii and established a collection of Classical archaeology (Baudez and Picasso 1992: 36–37). By the end of the eighteenth century, it was generally accepted that the native population of North America had migrated from Asia by way of the Bering Strait (Stiebing 1993: 173–75). Nevertheless, speculation about the origins of Indigenous peoples was still influenced by a desire amongst European colonists to justify their conquests by proving that the natives were inferior to themselves (Kehoe 1998). Archaeological fieldworkers in North America did not find great stone cities and temples, but observed and recorded extensive ritual earthworks reminiscent of burial mounds found in northern Europe (Stiebing 1993: 170–80). There were attempts to attribute them to Israelites, Danes, or even people from Wales. Even the systematic fieldworkers Squier and Davis, who surveyed, excavated, classified and published 'Mound Builder' sites in the Mississippi valley in the 1840s, attributed them to a vanished non-Indian race (Meltzer 1998; **Box 1.3**). This phase in the archaeological study of North America from 1492–1840 has been called, appropriately, 'the speculative period' (Willey and Sabloff 1980: 12–27). Challis (2014) has outlined how this kind of interpretation was also extended to other parts of the world.

1.2.8 Touring, collecting and the origin of museums

- key references: Anderson, *Enlightening the British* 2003; Díaz-Andreu, *A world history of nineteenth-century archaeology. Nationalism, colonialism, and the past* 2007; Hicks, *The Brutish museums: the Benin bronzes, colonial violence and cultural restitution* 2020; Hooper-Greenhill, *Museums and the shaping of knowledge* 1992; Impey and MacGregor, *The origins of museums* 1985; Stagl, *A history of curiosity* 1995.

BOX 1.3

Discovering The Archaeology Of North America: The Mounds Of Ohio And Illinois

Cahokia Mounds State Historic Site.

(Image source: Ron Cogswell, CC BY 2.0).

Until the nineteenth century, European colonisers in North America largely ignored the archaeology that they encountered, although early accounts had noted the existence of large mounds. It was only when large-scale European colonisation began in areas such as the Ohio Valley that mounds and earthwork structures (such as the Serpent Mound of Ohio and the mound pictured below at Cahokia, Illinois) were encountered. These structures are now known to have been burial and ceremonial monuments dating from a range of different periods, some as early as 1000 BC; the better-known Mississippian mounds date from c. AD 500–1550 (Abrams and Freter 2005). Ephraim Squier and Edwin Davis were among the first to survey and excavate the mounds systematically. North American archaeology in the nineteenth century suffered from a social evolutionary perspective that made it impossible to conceive that Indigenous American peoples could have constructed such monuments, and preferred to think that they had been built by groups from Europe such as Vikings, or lost tribes from Israel (Barnhart 2005; Trigger 2006: 159–60). This view was reinforced by the fact that the Native Americans who the colonists encountered were not settled societies like those that had originally built the mounds, but communities which had adopted nomadic ways of life in the succeeding centuries (Fagan 2007: 316–27). A more scientific approach to American archaeology in the later nineteenth century by individuals such as Joseph Henry and Cyrus Thomas refuted such ideas by demonstrating that these sites really had been the result of Indigenous development (Alex 2000: 15–19; Trigger 2006: 163). Despite this, the earlier 'diffusionist' interpretations continue to be prominent in popular views and in pseudo-archaeology (see **Box 7.1**; Feder 2005).

In Western intellectual circles, the collection and study of objects ran parallel to the development of archaeological fieldwork. It did not become dominant until the nineteenth century, when the expansion of agriculture, industry and (eventually) archaeological excavations began to provide sufficient quantities of pottery, metal and stone artefacts for advanced studies.

The Renaissance revived the Roman habit of visiting monuments and collecting works of art for aesthetic reasons, in contrast to the medieval Church's concentration on shrines and relics. In particular, ownership of Classical art and architecture was linked to knowledge on rediscovered Classical literature, which emphasised education and status (Moser 2006: 11–14). The concept spread to northern Europe, and educated people (predominantly men) of sufficient financial means began to visit the Mediterranean centres of Classical civilisation in Italy, Greece, Turkey and Southwest Asia. Travellers purchased antiquities as souvenirs to adorn their northern residences – which were constructed and decorated, of course, in a Classical manner. The process was accelerated

by agents sent to seek out further items and arrange shipment back to their new owners' homes. An early example of an English **Grand Tour** aristocrat was Thomas Howard, Earl of Arundel (1585–1646), who first travelled (with a large entourage) to Italy in 1612; there he bought, and even dug for, antiquities. His agent, William Petty, extended the search to Greece and built up a collection (at bargain prices compared with those in Italy) that became a centre of great learned interest, known throughout Europe after its publication in 1628 (Penny 1985). Although Arundel's collection suffered neglect and dispersal after the English Civil War, it had already generated similar interests amongst other noblemen and even royalty. Indeed, King Charles I stated that 'the study of antiquities is by good experience said to be very serviceable and useful to the general good of the State and Commonwealth' (Daniel 1975: 19).

Tours had other effects too; learned societies such as the Society of Dilettanti (an organisation of British antiquaries) sponsored expeditions to record Classical sites rather than simply to loot them. Individuals of lower social status and lesser wealth began to form more diverse collections (**Figure 1.7**). John 'Gardener' Tradescant's collection was created in the first half of the seventeenth century and a catalogue of its contents appeared in 1656. Although largely made up of botanical specimens, it also comprised 'Mechanick artificial works in carvings, turnings, sowings and paintings' and 'warlike instruments', mainly from Polynesia, Africa and America. After his death, the material passed to Oxford University through Tradescant's friend, Elias Ashmole. A new museum was opened in Oxford in 1683 by the future king James II and moved in the nineteenth century to the building known as the Ashmolean Museum; the original building still exists

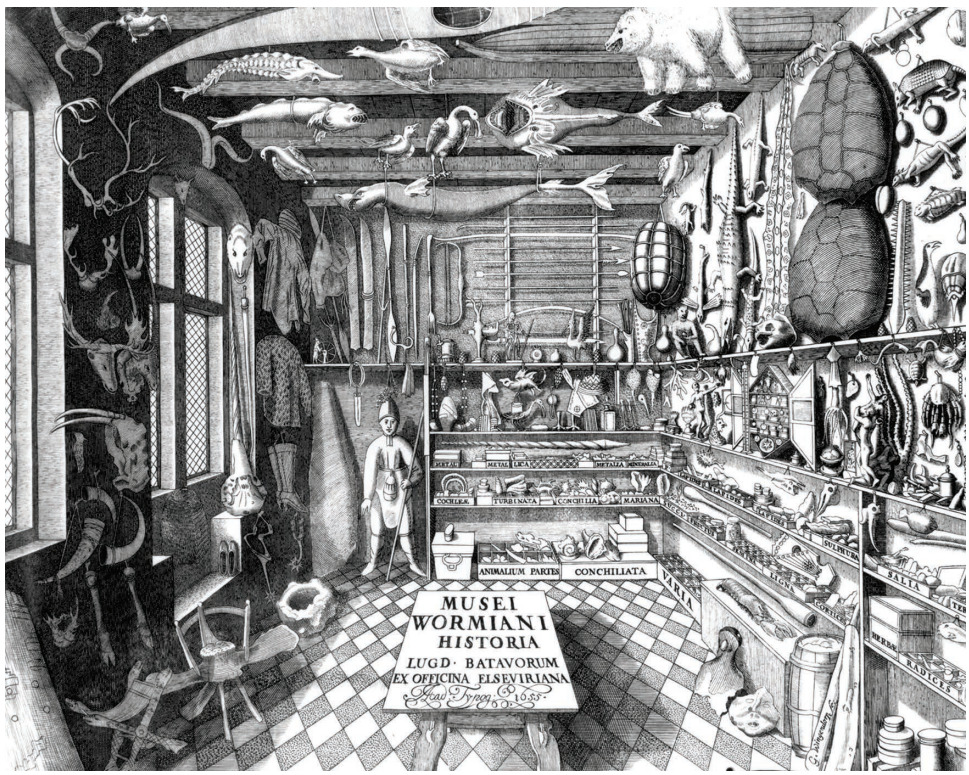


Figure 1.7 Ole Worm's collection of natural and archaeological curiosities, formed in Denmark and illustrated in 1,655 specimens. Modern museums derive from the wide scientific interests of such collectors, who embraced natural history and geology, as well as displaying ethnographic and archaeological artefacts.

(Image source: *Museum Wormianum* (Leiden 1655); Bodleian Library, Oxford B 5.9 Art).

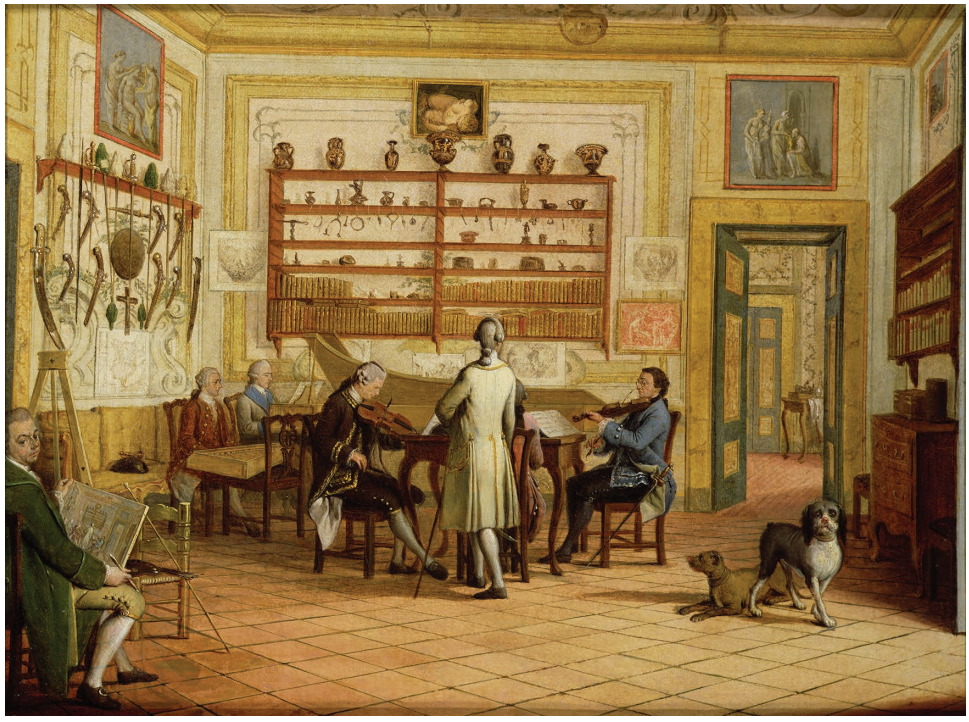


Figure 1.8 Lord Fortrose's apartment in Naples in 1770 illustrates how the interests of northern European aristocrats extended well beyond antiquities. In addition to the Classical style of the room and a collection of Greek and Roman artefacts displayed on shelves, there are books, paintings and weapons. Patronage of contemporary arts is represented by the artist (Pietro Fabris, bottom left) and a performance in progress by musicians who include the young Mozart.

(Image source: © National Galleries of Scotland/Bridgeman Images).

and is now the History of Science Museum. Thus, the Renaissance fashion for collecting contributed to the establishment of public museums attached to centres of learning or to cities. By the eighteenth century, the establishment of national museums, such as the British Museum in 1753 and the Louvre, France, in 1793, was more about national standing and colonial power than education for the masses (Hicks 2020). In the nineteenth century, such institutions attempted to emphasise similarities between modern nations and the ancient civilisations whose artefacts they displayed (see Chapter 7; Anderson 2003; Moser 2006: 2).

Museums have become the first point of contact with archaeology for many members of the public. The essential features of the early Ashmolean Museum (collecting, scholarship and public display) are now accepted as integral parts of the cultural life of almost every modern country. The interest of antiquaries like Aubrey and Stukeley in prehistoric sites and objects was connected to the same phenomenon; indeed, many travelled in their own countries because they could not afford to go abroad. However, early field archaeologists naturally concentrated on sites because the potential for using objects to distinguish between stages of development in prehistory remained extremely limited until time was conceptualised in a more scientific way.

People did not embark upon the Grand Tour purely to visit historical sites or to collect antiquities, of course. There were opportunities for many other pursuits, including art and music (**Figure 1.8**). Tourism in the modern sense expanded dramatically in the nineteenth century with the help of improved roads and railways and regular shipping services. It did not remain the preserve of the aristocracy, whose pioneering paths in search of

more exotic destinations in Egypt and the Middle East were soon followed by less wealthy travellers. The appearance of commercial travel agents such as Thomas Cook, who organised his first tour in 1863, initiated a completely different phase of mass tourism that persists in the twenty-first century, but will diminish as the climate emergency makes air travel less acceptable (Withey 1997).

The desire to preserve ancient ruins had its roots in the Renaissance and Enlightenment interest in the aesthetic value of Classical ruins (Sweet 2004: 285). However, by the late nineteenth and early twentieth century, preservation became more formal, and a number of countries set about creating laws to protect, and sometimes restore, historic and archaeological monuments (see Chapter 7). For instance, Lord Curzon, Viceroy of India, did much to restore archaeological monuments in India and England (Thompson 2006: 52). However, many such projects were designed to enhance national identity and imperial pride in the pasts of these nations rather than to develop archaeological management.

1.2.9 Science and Romanticism

- key references: Bahn, *Cambridge illustrated history* 1996b: 80–115; Díaz-Andreu, *A world history of nineteenth-century archaeology. Nationalism, colonialism, and the past* 2007; Gran-Aymerich, *Naissance de l'archéologie moderne* 1998; Pluciennik, *Social Evolution* 2005; Smiles, *The image of antiquity* 1994; Trigger, 'Romanticism, nationalism and archaeology' 1995.

Nineteenth-century Europe experienced a spectacular rate of change. It began with an essentially rural landscape and economy in the early stages of the Industrial Revolution and ended with mechanised factories drawing upon large urban populations completely divorced from their agrarian roots. There was also considerable political change, with the aftermath of the American and French Revolutions (1775–83, 1789) still felt at the beginning of the century, and the development of Marx's political ideas by its end (*Das Kapital* 1867–93). Science had moved on from the seventeenth and eighteenth centuries to become what we know today – a discipline based upon laboratory observation and experimentation, rather than a term encompassing the pursuit of knowledge in general. Awareness of rapid change probably boosted interest in causes and effects, and assisted in the development of grand explanatory schemes. This was the context of ideas such as evolution of the natural world by **natural selection** (Darwin 1859), or human **social evolution** through stages from savagery to barbarism to civilisation (Morgan 1871, *Ancient society*, popularised by Marx and Engels). The Enlightenment and Romanticism provided a seedbed in which archaeology could grow rapidly, because scientific observation and classification had become directly linked to explanation. Furthermore, Enlightenment ideas about the value of education were actually put into practice in the nineteenth century. Museums and art galleries, along with schools and colleges, came to be considered essential for the 'improvement' of the general public. The scene was set for the convergence of many separate strands – fieldwork, geology, collecting of artefact, excavation – into a discipline which is directly ancestral to the kind of archaeology practised in the twenty-first century.

1.3 THE RECOGNITION AND STUDY OF ARTEFACTS

- key references: Díaz-Andreu, *A world history of nineteenth-century archaeology. Nationalism, colonialism, and the past* 2007; Pearce, 'The interpretation of ancient objects, 1770–1820' 2007b; Woolf, 'The dawn of the artifact' 1992.

The history of the study of objects, like that of fieldwork, provides a useful illustration of some basic principles of archaeology. Ordinary artefacts from historical periods were only recovered by accident until excavation became an essential part of archaeology during the nineteenth century, and they attracted little interest unless they possessed aesthetic qualities. Although in the sixteenth century a number of Italian collectors accurately identified flint arrowheads or polished axes from much earlier periods as human artefacts (Schnapp 1996: 154), the concept spread slowly. It still

Figure 1.9 Recognition of prehistoric implements in Europe was helped by observations of similar objects, still in use, in other parts of the world. In 1699, Edward Lhuyd wrote: 'I doubt not but you have often seen of these Arrowheads they ascribe to elfs or fairies: they are just the same chip'd flints the natives of New England head their arrows with at this day; and there are also several stone hatchets found in this kingdom, not unlike those of the Americans' (quoted in Piggott 1989: 86). The artefacts on the left come from North and South America; those on the right are from northern Britain.

(Image source: Great North Museum Hancock, Newcastle upon Tyne).

seemed a novelty when, in the seventeenth century, de Lapeyrère proposed that stone implements were not 'thunderbolts', but tools and weapons made by peoples who had preceded the creation of Adam (Piggott 1989: 45–7). The matter was soon placed beyond doubt when similar items became available for study in ethnological collections from the South Seas and the Americas, where they could still be observed in use (**Figure 1.9**; **Box 1.1**).

Concepts of successive Ages of stone, bronze and iron, suggested by actual finds, are known from Chinese literature as early as the first century BC, and Shen Kua made remarkable studies of artefacts in the eleventh century AD (Evans 1982: 13–14; Schnapp 1996: 74–79). A Greek writer of the second century AD, Pausanias, had noted the lack of any mention of iron in the poetry of Homer, and inspected ancient weapons preserved in temples, confirming that they were indeed made of bronze (Schnapp 1996: 46). John Frere published drawings of typical flint bifaces ('hand-axes') from the early Stone Age in *Archaeologia* in 1800, 'evidently weapons of war, fabricated and used by a people who had not the use of metals'. Bronze artefacts actually caused more problems than those made of stone or iron, for while early travellers could observe Stone Age communities in America and Australia, and Iron Age societies in many parts of Africa, no living Bronze Age peoples had been encountered. Bronze artefacts found in Europe were normally assigned to the Romans because they seemed too complex to have been made by 'savages', but suggestions of an earlier date found some support by the eighteenth century (Piggott 1989: 95–100; Murray 1999b: 33–34). However, as we shall see (below: p. 30), Boucher de Perthes was still fighting for the acceptance of stone artefacts as the work of early humans fifty years later.

1.3.1 Scandinavia and the Three-Age System

- key references: Graslund, *The birth of prehistoric chronology* 1987; Rowley-Conwy

From Genesis to prehistory 2007; Schnapp, *The discovery of the past* 1996: 295–303.

> Why has Scandinavian archaeology, generally speaking, an advantage over foreign archaeology, if not because Scandinavian archaeologists have had an opportunity to study in their museums not isolated specimens but whole series and their development?
>
> (Hans Hildebrand 1873, quoted in Graslund 1987: 16)

The archaeology of Scandinavia is particularly rich in finely made artefacts dating from the prehistoric to Viking periods, and many of them are found in good condition in graves. Hildebrand was right to stress these factors, for increased building, agriculture and excavation in the nineteenth century had provided a plentiful supply of discoveries. Fortunately, Scandinavia already had museums where objects could be preserved, studied and displayed. An Antiquities Commission was set up by the Danish government in 1807 to protect sites, promote public awareness of antiquities and establish a museum (Rowley-Conwy 2007: 33). The first curator of the resulting National Museum in Copenhagen was Christian Thomsen, who held the post from 1816 to his death in 1865 (**Figure 1.10**).

Thomsen would have been aware of the concept of successive Ages of stone, bronze and iron not just from Greek and Roman philosophical speculation; it had been expressed particularly well by another Scandinavian antiquary, Simonsen, in 1816:

> At first the tools and weapons … were made of stone or wood. Then the Scandinavians learnt to work copper and then to smelt it and harden it . . . and then latterly to work iron. From this point of view the development of their culture can be divided into a Stone Age, a Copper Age and an Iron Age.
>
> (quoted in Daniel 1967: 90–1)

Thomsen was the first to demonstrate the validity of these hypothetical Ages by examining **closed finds** (graves, hoards, etc.) in which artefacts had been discovered. He restricted his central definition of the Three Ages to cutting weapons and tools and established their relative order. Some finds contained only stone tools, while a few contained

Figure 1.10 The Oldnordisk Museum in Copenhagen was founded in 1816 and played an important role in increasing public awareness of antiquities. In this drawing (made in 1846 by Magnus Pedersen) the museum's first director, C.J. Thomsen, is inspiring great enthusiasm by showing objects to visitors.

(Image source: National Museum, Copenhagen).

stone together with bronze (but never iron). After iron weapons had been introduced, bronze continued to be used for other kinds of objects, but the Iron Age was observably the most recent period because late Iron Age artefacts were found in the same graves as Roman and medieval coins. Once this analysis had confirmed the order of stone and metal weapons and tools, Thomsen was able to see what other kinds of objects were found associated with them, as well as noting which specific burial practices and grave forms characterised different ages. Effective classification was indispensable to the advance of the study of prehistory, and the basic concept of the Three-Age System – with further subdivisions – remains a fundamental framework for understanding prehistory in much of the world.

Thomsen presented the evidence for these chronological deductions in museum displays by placing together groups of objects that had been found in association. He was keen to show them to visiting archaeologists, but also to ordinary visitors and especially farmers, who were likely to discover

objects that could be added to the collections. His paper on how to deal with such artefacts when they were encountered in the field was printed in 1836, receiving wider attention after it was translated into English in 1848. The phenomenon of collecting antiquities, once a hobby of a social elite typified by the Earl of Arundel (above: p. 18), had been transformed by the nineteenth century in a remarkably democratic fashion. The popularising approach of Thomsen was reinforced by other archaeologists, such as General Pitt Rivers, and it remains essential to the survival of modern museums (below: p. 367). However, unlike Pitt Rivers, Thomsen did not attempt either to study the development of the forms of individual artefacts (**typology**) or to explain the reasons for the changes that he had observed (Graslund 1987: 26–28).

Thomsen's successor as director of the Danish National Museum was another remarkable man, Jens Worsaae (1821–85). Both Thomsen's and Worsaae's recommendations for the use of systematic excavation were inspired by the need to recover still more artefacts from specific contexts that would allow Thomsen's broad classifications to be refined (Rowley-Conwy 2007: 16). In 1861, Worsaae subdivided the Stone Age into three periods according to the nature of stone artefacts. The earliest period was characterised by hand-axes and large flakes, found in the gravels and caves of western Europe; these were followed by finer tools found in Denmark in 'kitchen middens' (also known as shell middens – mounds of shells and bones left by hunter-gatherers). Finally, polished stone tools were associated with elaborate tombs that occasionally also contained the earliest metal objects. The first and third of these divisions of the Stone Age were soon named **Palaeolithic** and **Neolithic** (old and new) by Sir John Lubbock in his book *Pre-historic times* (1865), while the second was termed **Mesolithic** by Westropp in 1866 (Rowley-Conwy 1996). Worsaae used a different method to divide the Bronze Age. He identified a series of different burial practices and grave forms and was able to place them into chronological order either by reference to artefacts found in them or by observation of excavated sites where examples of different forms had been found in a **stratigraphic** sequence. Thus, Worsaae, like Thomsen before him, relied primarily on the contexts of artefacts, rather than typological study of the artefacts themselves.

The success of the Scandinavian approach to classifying past ages in terms of materials and technology overshadowed other methods such as the Frenchman Edouard Lartet's division of early prehistory according to the prevailing mammalian fauna (reindeer, cave bear), or craniologists' attempts to recognise sequences of races according to the shapes of their skulls (Morse 1999). The focus upon objects led to the development of typology (**Figure 1.11**).

1.3.2 Typology

- key references: Åström, *Oscar Montelius* 1995; Bowden, *Pitt Rivers* 1991; O'Brien and Lyman, *Seriation, stratigraphy and index fossils* 1999.

Figure 1.11 In an explanation of his methods of studying typology, Oscar Montelius illustrated the transition of the axe head from stone to metal. The first copper axes (second and third, top row) were very similar to their stone counterparts (top left), but it was soon realised that metal could be saved by making them thinner, while increasing their effectiveness by hammering out a wider cutting edge (below). Further developments can be seen in Chapter 4, **Figure 4.1**.

(Image source: Montelius 1903: 22).

Classification was an important part of the Enlightenment approach to science; **typology** differs from classification in that artefacts are arranged into sequences according to developments and changes that may then allow them to be placed into a hypothetical chronological order. This may not seem a particularly significant distinction until it is recognised that before the nineteenth century, there was a prevailing idea that the natural world was fixed at the time of the Creation. **Ray's Taxonomy**, developed in the seventeenth century, laid down the principle of fixed species. Swedish scientist Linnaeus (Linné) (1707–78) incorporated this idea into his binomial system – two-part names, such as *Homo sapiens* – which not only allowed the natural world to be classified systematically but also enabled other scientists to apply precisely the same system to their own specimens. The idea of a **Great Chain of Being** consisting of a hierarchy from God down to the simplest creatures was not a radical departure from Aristotle's Ladder of Nature defined in Greece in the fourth century BC. As long as species were regarded as fixed, there was therefore no reason to look for development and change or to attempt any kind of chronology, and it required a half-century of geology and biology after 1800 before there was a shift to looking for evolution rather than stability (Turnbaugh *et al.* 2002).

The development of typology did not rely upon the concept of the Three-Age System or Darwin's theory of evolution. Graslund's thorough study (1987) of the original writings of Thomsen, Worsaae and other Scandinavian scholars revealed that studies of artefacts were based primarily on the contexts in which they had been discovered. These were sufficiently plentiful in Scandinavia for virtually all classes of artefacts to be placed in chronological order, and once this had been done, typological studies could begin on a secure basis. Evolution provided a striking explanatory metaphor that stimulated typological studies from the 1860s onwards, despite the problem of equating biological change and technical change (Basalla 1988).

The influence of Classical archaeology on typology has been underestimated because most histories of archaeology have been written by prehistorians. The styles of Classical sculptures and Greek painted vases were also studied primarily from the objects themselves, largely because their contexts were rarely recorded. Systematic studies of Greek and Roman architectural and artistic styles began during the Renaissance and were formalised by Johann Winckelmann in his publication of 1764 (Murray 1999b: 53–57). A parallel phenomenon was the careful recording, classification and dating of medieval and Renaissance architecture, such as John Ruskin's studies of Venice in the 1850s. In both cases classification was inseparable from moral judgements about artistic standards and the social systems that had produced them; this consciousness of the subjective attitudes lying behind research was re-emphasised by archaeologists in the 1980s and 1990s (Chapter 6, p. 304).

Ancient coins were even more significant; Petrarch studied inscriptions and portraits in the fourteenth century, and classifications of large coin collections were published from the sixteenth century (Berghaus 1983: 19–23). Joseph von Eckhel's *Doctrina numorum veterum* (1782–98) and similar works by other authors provided comprehensive geographical and chronological classifications that must have been useful reference tools for Thomsen and his successors. It is also important to recognise that coins are artefacts, and that their study by means of stylistic sequences of portraits or other ornamentation, combined with changes in size and weight, bears many similarities to typology. Graslund rightly stressed the importance of the numismatic knowledge of Thomsen, Hildebrand and the Swede Oscar Montelius, who all appreciated the importance of coins as dating evidence that could be used to subdivide the Scandinavian Iron Age (Graslund 1987: 66). John Evans, inspired by Darwinian ideas of evolution, undertook similar work on British Iron Age coinage and successfully demonstrated the development of indigenous coinage from earlier Greek prototypes (Evans 1864; de Jersey 2008).

Augustus Henry Lane Fox (1827–1900) took the name Pitt Rivers under the terms of an inheritance in 1880 (Murray 1999b: 127–40). He collected artefacts from all over the world from the early 1850s while serving in the Grenadier Guards. He was involved in replacing muskets with rifles in the British army, and in testing various models and modifications for reliability and efficiency. Pitt Rivers applied the same approach to the

study of the development of ancient objects. He liked to collect examples of the principal stages involved, and, in contrast to earlier collectors like John Tradescant, assembled artefacts 'solely with a view to instruction. For this purpose ordinary and typical specimens rather than rare objects have been selected and arranged in sequence' (Daniel 1981: 140). Pitt Rivers' concept of typology was very different from that of Montelius, for he invoked analogies with Darwinian evolution as early as the 1860s (Bowden 1991: 54). His concept of Australian weapons placed a variety of clubs, boomerangs, throwing sticks, shields and spears into sequences from simplicity to complexity, all beginning with a simple stick. This reveals the weakness of the evolutionary analogy, for a shield is only a shield when it is broad and flat, and a boomerang is not a boomerang if it does not fly; Pitt Rivers did not take sufficient account of invention.

As soon as Scandinavian prehistory had been subdivided according to groups of artefacts found together in graves and other contexts, further attention was turned to the artefacts themselves. The work of Montelius (Murray 1999b: 155–64) encompassed the whole of Europe from the 1880s, and he used his broad knowledge to fix dates for the Bronze and Iron Ages by cross-referencing northern European finds to datable objects exported from the civilisations of Egypt and the eastern Mediterranean (cross-dating; see below: p. 171). Fellow Swedes Bernhard Salin and Nils Åberg continued typological research in the twentieth century by studying objects and ornamental styles associated with Germanic tribes of the Roman and 'Dark Age' periods. Like Montelius, they used dated finds from southern Europe to provide fixed points in the archaeological sequences of Scandinavia. Unfortunately, the introduction of radiocarbon dating in the 1960s revealed major errors in the dating of European prehistory and cast typology in a bad light, for many similarities detected between European and Southwest Asian objects turned out to be coincidental (below: p. 191).

Typological studies were not restricted to Scandinavia, of course. Flinders Petrie (Murray 1999b: 221–32) produced comprehensive typologies of Egyptian pottery and stone tools from periods preceding the historically dated Pharaonic period. In the United States, typology reached a peak in the study of Native American pottery by archaeologists such as James B. Griffin in the 1930s (Murray 1999b: 454); their intellectual context blended anthropology with social evolution but came under attack in the 1960s from **processualists** (Kehoe 1998: 97–112; see Chapter 6).

Nevertheless, with appropriate caution, the typological technique remains fundamental to the classification and study of artefacts of virtually any kind or date found anywhere in the world.

1.4 RECOGNISING HUMAN ORIGINS

1.4.1 Evidence for human antiquity

- key references: Grayson, *The establishment of human antiquity* 1983; O'Connor, *Finding time for the Old Stone Age* 2007; Thomas, *The first humans* 1995; Van Riper, *Men among the mammoths* 1993.

> Humans cannot be descended from the apes because, in some ways, they are apes themselves. Really we should ask whether humans descend from 'an' ape. Naturally, people are not descended from a present-day ape, any more than we are descended from our cousins. But palaeontology and all the disciplines of the biological sciences have taught us that humans and modern great apes had common ancestors several million years ago.
>
> (Thomas 1995: 57)

This succinct quotation is a modern restatement of a fundamental question about human existence that has worried theologians, geologists, biologists and archaeologists for a very long time. In 1619 Lucilio Vanini was burnt alive for suggesting that humans originated from apes, while the great apes were only classified as distinct (but related) species – as opposed to degenerate forms of humans – in the eighteenth century, by Linnaeus and Buffon (Thomas 1995: 19, 23–4). Pioneers of geology and fossil classification such as Ray or Cuvier were not able to contribute to this debate because neither fossil apes nor primitive human remains were encountered until the 1830s (*ibid.*: 26–9) –

well after the existence of early humans had been predicted on the evidence of stone tools discovered alongside bones of extinct animals. Skeletal remains of humans with 'primitive' characteristics (for example, projecting brow-ridges and receding chins) that differed from anatomically modern humans were discovered with increasing frequency in Europe between 1856 and 1886, and named after the locations where they were found, Neanderthals and Cro-Magnons (Thomas 1995: 43–49). Not until the discovery of 'Java Man' by Dubois in the 1890s was there any physical evidence for a 'missing link' between apes and humans of the kind predicted by Darwin and Huxley (*ibid.*: 50–5; Bahn 1996a: 236–37); their statement that the earliest human ancestors would be found in Africa was not supported by finds of fossil bones until the twentieth century (**Figure 1.12**).

Figure 1.12 Reginald Southey, photographed by Charles Dodgson (aka Lewis Carroll) between 1857 and 1859. The setting displays an interesting consciousness of the common origin of humans and primates at a time when fossil evidence had not yet been found for the development of either. It is an early example of amateur photography, taken in Oxford close to the publication date of Charles Darwin's *Origin of species* (1859).

(Image source: Granger/Bridgeman Images).

John Frere and Hoxne

- key references: O'Connor, *Finding time for the Old Stone Age* 2007; Singer *et al., The Lower Palaeolithic site at Hoxne* 1993.

Volume 13 of the periodical *Archaeologia* (published by the Society of Antiquaries (**Box 1.4**) in 1800) included a minor item, the full significance of which did not become apparent for sixty years. Amongst an assortment of papers – on subjects ranging from a Roman fort in Germany to historical documents associated with British royalty – was a short letter from John Frere (1740–1807), drawing attention to some observations made in a clay pit at Hoxne in Suffolk. He reported flint weapons found at a depth of twelve feet in a layer of gravel, overlain by a bed of sand containing bones of extinct animals and, remarkably, shells and remains of marine creatures 'which may be conjectured to have been once the bottom, or at least the shore, of the sea'. Frere was evidently conscious of the problematic implications:

> It may be conjectured that the different strata were formed by inundations happening at distant periods. . .. The situation in which these weapons were found may tempt us to refer them to a very remote period indeed; even beyond that of the present world.
>
> (Frere 1800: 205)

Frere made no reference to the biblical Creation or Flood, and he died before an accumulation of similar finds began to suggest an alternative view of human origins (**Figure 1.13**).

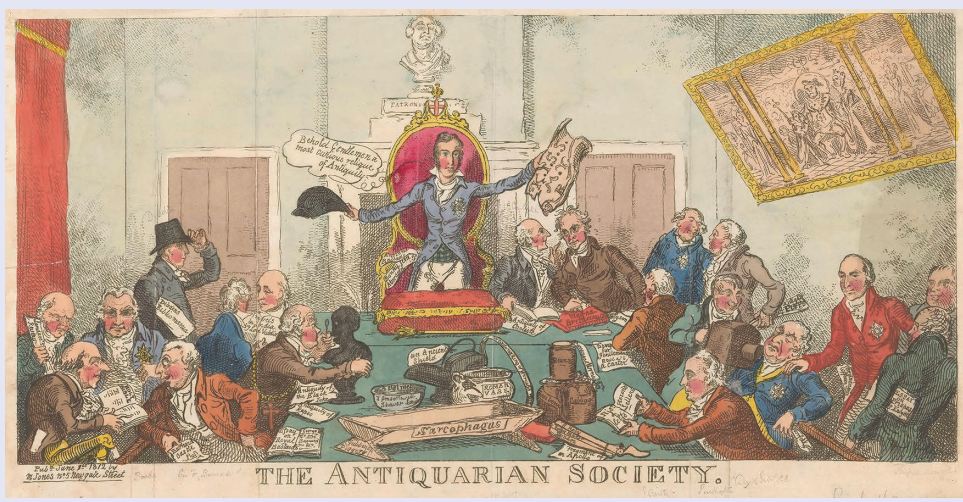
Frere's conundrum was already familiar to geologists such as Robert Hooke and Nicolas Steno, who had been speculating about the significance of fossilised animals for several centuries (Stiebing 1993: 33–34). Worries about geological time did not yet have a significant impact upon biblical views about the age of the world, but the likelihood of conflict increased as growing numbers of finds of artefacts made by humans – but associated with remains of extinct animals – were noted in Europe in the early nineteenth century (*ibid.*: 34–46).

BOX 1.4

The Great Societies: Archaeology Comes Of Age?

Informal meetings in a tavern from 1707 led to the creation of the Society of Antiquaries of London in 1717 (Pearce 2007a: 2), and a similar society began in Scotland in 1780; these societies were among the earliest formal associations of archaeological researchers in the world (Starkey *et al*. 2007). Societies of this kind began to publish journals recounting recent finds and concepts of the past, such as *Archaeologia* from 1770 and the *Archaeological Journal of the Royal Archaeological Institute* from 1845 (Murray 2001: 199–216). Meetings of antiquarian and archaeological societies provided a context in which influential new ideas in archaeology could be presented, such as the Danish antiquary Jens Worsaae's account of his concept of prehistory (Briggs 2007), or John Evans' magisterial analysis of Iron Age coins (de Jersey 2008). At these antiquarian societies, and their predecessors such as the Royal Society, many of the great topics of the day – such as the antiquity of humans – was debated and advocated (Briggs 2007). The American Institute of Archaeology (established in 1879) and several European national archaeological institutions founded archaeological schools or research centres in the countries in which they focused their research, notably in Rome, Athens and Jerusalem, and their work continues today (Murray 2001: 100; Wallace-Hadrill 2001). Research into specific periods and areas of the world was facilitated by the establishment of groups such as the Prehistoric Society (formed as a national body in 1935 by expanding the Prehistoric Society of East Anglia, which had existed since 1908) and the Society for American Archaeology (established in 1934). The histories of such societies reflect changes in the focus and direction of archaeological research over time, and before modern communications were established they provided a crucial network of communication that facilitated cross-fertilisation of ideas, allowing new information about evolution and dating to spread rapidly through the international antiquarian community (Sweet 2004: 81; Rowley-Conwy 2007). In the second half of the twentieth century these societies were joined by the Council for British Archaeology (founded 1944) and RESCUE (founded 1971). The focus of these new groups reflected the growing threat that archaeology faced from development, and their remit was to stimulate national discussion about the historic environment and to recommend ways of protecting it.

The cartoon below, by George Cruickshank in 1812, illustrates how antiquarian societies quickly became satirised in the late 18th and early 19th centuries for their odd interest in artefacts and the past.



(Image source: Alamy Stock Photo).

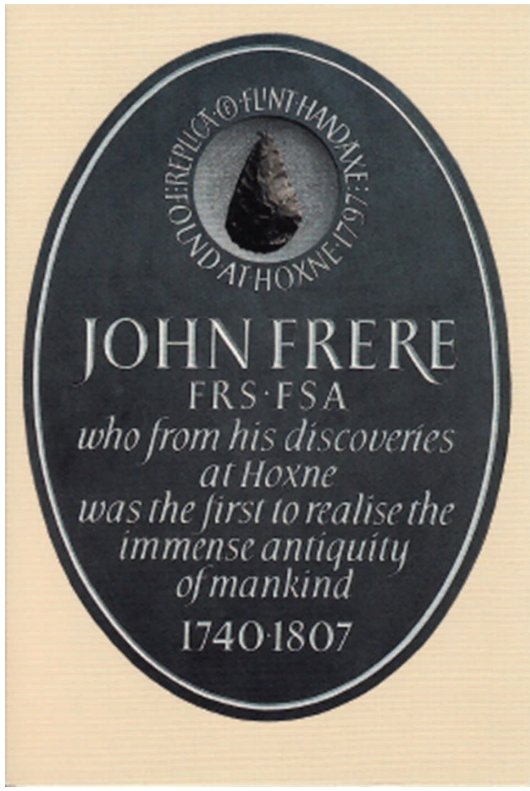


Figure 1.13 In 1999 a memorial was installed in Finningham Church, Suffolk, to commemorate the powers of observation and recording shown in John Frere's publication of Stone Age artefacts found at Hoxne in the late eighteenth century (Frere 1800). From the 1850s onwards, Frere's work was recognised as the first scientific account of prehistoric artefacts found in early geological strata.

(Image source: the Cardozo Kindersley Workshop, Cambridge).

Boucher de Perthes and the Somme gravels

- Key reference: Schnapp, *The discovery of the past* 1996: 310–44.

By the time of Frere's death in 1807, Jacques Boucher de Perthes (1788–1868) was already becoming interested in archaeology in France; he spent several decades studying the gravel quarries of northern France (**Figure 1.14–1.15**). He was impressed by the great depth and variety of the deposits of sediment, and he felt that they were far too complex to result from the biblical Flood, although he did not totally reject the authority of the Old Testament. However, it was

Figure 1.14 Jacques Boucher de Perthes published many ideas about artefacts found around Amiens in northern France and their stratification. His bombastic manner diminished the credibility of his beliefs. Despite this, Perthes' central idea – that human artefacts of great age were to be found in the gravels of northern France – was confirmed when John Evans and Joseph Prestwich travelled from England to inspect his finds in 1859.

(Image source: Originally by Henri Grévedon, reproduced in Wellcome collection online, licensed under CC BY 4.0).

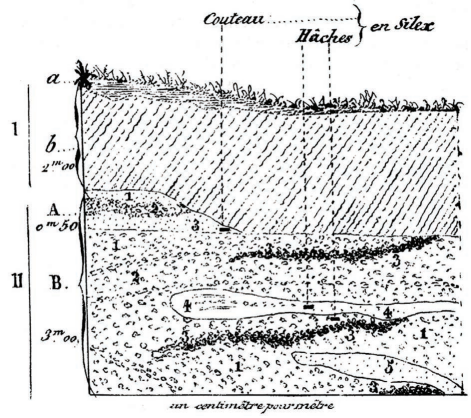


Figure 1.15 A section drawing published by Boucher de Perthes in his *Antiquités celtiques et antediluviennes* (1847) shows the geological strata in which he had found flint implements (labelled *couteau/haches en silex*) in the Somme Valley gravels. The carefully numbered and delineated layers and artefacts, with a vertical scale in metres, illustrate how geologists used this method of recording decades before it was adopted by archaeological excavators (compare with **Box 3.3**).

(Image source: Boucher de Perthes 1847: 253).

Figure 1.16 This stone axe was photographed *in situ* in the gravels of the Somme valley associated with mammoth bones in 1859, when John Evans and the geologist Joseph Prestwich visited Boucher de Perthes' excavations at St Acheul, Amiens, proving human antiquity. Evans later published hand-axes similar to this example: 'That they really are implements fashioned by the hand of man, a single glance at a collection of them placed side by side . . . would, I think, be sufficient to convince even the most sceptical. There is a uniformity of shape, a correctness of outline, and a sharpness about the cutting edges and points, which cannot be due to anything but design' (Evans 1860: 288). The artefact was recently rediscovered in the collections of the Natural History Museum, London.

(Both Images: © Natural History Museum, London/ Bridgeman Images).

an uphill struggle to convince contemporaries that flint tools collected from the gravels were made by humans, and that they could be recognised by their artificial shaping: 'At the very mention of the words "axe" and "diluvium", I observe a smile on the face of those to whom I speak. It is the workmen who help me, not the geologists' (quoted in Daniel 1981: 52). Because he was able to prove that these tools came from within ancient gravel beds, Boucher de Perthes concluded that humans had existed before 'the cataclysm that gave our country its present configuration', and that these humans were therefore also contemporary with a wide range of extinct animals. He did not abandon the idea of floods but suggested that Adam and Eve resulted from a later and separate Creation, long after the flood whose results he observed had wiped out earlier humans. Whether or not people accepted this view, the Earth was seen to be becoming increasingly ancient, and humans were being drawn back into an immeasurable void.

Not all geologists treated Boucher de Perthes' work sceptically. An English geologist, Joseph Prestwich, together with an authority on ancient implements, John Evans, travelled to France to meet him and to visit the celebrated gravel pits. In May 1859 they were rewarded with the opportunity of observing a flint axe, still firmly embedded in an ancient gravel deposit; any remaining doubts were removed (photographs were taken, too: **Figure 1.16**; Gamble and Kruszynski 2009). Prestwich read an account of their observations to the Royal Society in London before the end of May, and a summary of his paper appeared in print in 1860. He referred to Frere's letter published in 1800 and pointed out that Frere's observations conformed with