



OBJECT-BASED LEARNING

Exploring Museums and
Collections in Education

THOMAS KADOR

 **UCLPRESS**

Object-Based Learning

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Exploring
Museums and
Collections in
Education

Thomas Kador

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First published in 2025 by
UCL Press
University College London
Gower Street
London WC1E 6BT

Available to download free: www.uclpress.co.uk

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A CIP catalogue record for this book is available from The British Library.



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Kador, T. 2025. *Object-Based Learning: Exploring Museums and Collections in Education*. London: UCL Press.
<https://doi.org/10.14324/111.9781787354296>

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ISBN: 978-1-78735-431-9 (Hbk)

ISBN: 978-1-78735-430-2 (Pbk)

ISBN: 978-1-78735-429-6 (PDF)

ISBN: 978-1-78735-432-6 (epub)

DOI: <https://doi.org/10.14324/111.9781787354296>

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How to use this book

Since roughly the 2010s, object-based learning (OBL) has established itself as an important new pedagogy. Although it builds on several decades of scholarship on learning with objects and in a museum context by a small number of scholars including Pearce (1994), Paris (2002), Candlin and Guins (2009), Caple (2006) and Chatterjee and Hannan (2015), there remains a relatively limited detailed discussion of OBL in the literature. This book aims to fill this gap by providing a concise yet comprehensive introduction to the practice of OBL and the theories underpinning it. This 'How to use this book' section offers a brief rationale for the book, including its scope, main aims and objectives, as well as a short discussion of the book's target audiences. Following this, I will provide an overview of the book's structure.

Focusing on OBL in higher education, this book is primarily written with three main audiences in mind: students and educators active in higher education as well as cultural heritage professionals, especially those in educational or engagement roles in a museum, archive or collection setting. However, I also hope that the book will be of interest to readers from beyond these groups. In particular, I envisage it to be relevant to educational professionals outside higher education, including teachers and potentially their students in secondary and perhaps even primary schools, as well as educators and students in further education or less formal learning settings. Should you not belong to any of these groups, I would like to warmly encourage you to continue reading nonetheless, as it appears that you have an interest in OBL. Hopefully by the end of this section you will have been able to make up your mind about whether this book is for you.

The primary objective of this volume is to provide a first point of reference for anyone interested in practically exploring the

pedagogical approach that has come to be known as object-based learning. While the focus is very much on the practice of OBL, the book will nonetheless include an appropriate amount of theory to go with it, which is necessary to demonstrate the theoretical grounding of the approaches discussed. So regardless of your background or your professional and/or educational position, if you are interested in practically engaging with objects in learning in some way, then this book may just be of interest to you. In it, I will take you step-by-step through various aspects and approaches that I would view as loosely fitting together under the OBL umbrella. OBL currently still represents a relatively new approach to learning, at least as a formal educational practice; therefore, if you have not heard about it so far, do not worry – this book will introduce you to what it entails. In fact, [Chapter 1](#), which follows this introductory guide, will provide you with sufficient grounding to give you a good working knowledge of what OBL is and how it works. In addition, as in every chapter that follows, it contains a list of further reading and resources should you wish to explore the topic of OBL, or any of the other topics raised in the respective chapters, in greater detail.

The text below is divided into three different sections that directly address the core readership of the book. The first is specifically dedicated to students and those in colleges, universities and other higher education institutions. But if you happen to be a keen secondary school student or a learner in a further education college, please feel free to read on. If you do not consider yourself a student (for example, you are an educator) then you may wish to skip ahead to the following section, which is addressed directly to you.

FOR STUDENTS

If you are a student, then I imagine that in most cases you will be using this book as part of a university course or module, and I would thus advise that you use it in line with your instructors' guidance. Having said that, in writing the book, my aim has been to make each chapter as self-explanatory as possible, with introductory texts, practical case studies and self-guided exercises. Therefore,

if you so wish, you should be able to work through the volume entirely autonomously. However, being able to access some objects to work with, ideally from a curated collection, would definitely be of great benefit. The structure of the book and the order of its chapters follows a tried and tested formula (based on over a decade of teaching experience of OBL). Therefore, I would recommend that you follow the chapters in their intended order. However, I appreciate that every reader will have particular interests, focusing more on some aspects of the book than others, and each chapter should be sufficiently self-contained to support a more ‘pick and mix’ approach. There are also plenty of cross-references between chapters, so you will quickly get to appreciate the relevance of any given section of the book to several others and should you have skipped over one, you may wish to return to it for context at a later point.

The case studies, practical exercises, further readings and resources are visually highlighted in boxes so that they clearly stand out and are easy to identify. Again, I would encourage you to at least attempt completing each exercise at its appropriate place within the book, as they are designed to help you deepen your understanding of the topic discussed and are based on exercises I have been doing with my own students for several years.

FOR EDUCATORS (INCLUDING MUSEUM EDUCATORS)

Perhaps you are a highly experienced university lecturer or professor who has been using objects and material culture more broadly in your pedagogical practice for many years or you are a teaching curator whose work is entirely based on working with material culture. Even so, I hope that this book still has a number of things to offer you. If, on the other hand, you happen to be less experienced in drawing on objects and collections in your teaching and this is perhaps even the first time that you are considering doing so (or if you have only started doing so relatively recently) then I hope that this volume provides the ideal starting point for you.

If you are planning to use this book as a core text, I do not wish to prescribe that you loyally stick to the precise order within

which the chapters are organised. I invite you to employ the book in whichever way best complements your practice. However, the structure and order of topics covered in the volume does represent a logical succession, based on several years' experience of working with objects with higher education students and, in fact, learners of all ages and from various backgrounds. Therefore, I would like to invite you to carefully consider the order in which the book is organised, provided that the chapters are relevant to the course you teach.

I also hope that the case studies, further reading and resources sections and especially the practical exercises will make a useful addition to your classes. Regardless of whether you choose to use these as in-class activities or assign them to students for their individual, self-directed (or group) study time, they will hopefully provide much inspiration for engaging with material culture in creative and productive ways.

FOR EVERYONE ELSE

If you are neither a student nor an educator (or museum professional) but what you have read so far nonetheless sounds interesting to you, then please bear with me. One of the key premises of OBL, shared with most other approaches within authentic and experiential education, is that we are all part of a community of learners, regardless of our specific position, role or job title and whether we work within an institution or completely independently. In this context, I am confident that OBL has much to offer to most people and hopefully you will benefit from working through the book, including having learned something useful. Perhaps it will even have led you to discover or inspired you to develop an application for OBL outside of formal education, which is in fact arguably one of the biggest growth areas for OBL (see the Conclusions chapter).

Continuing in this vein, while it is now published and printed (even if you are reading it digitally), I consider this volume and the OBL project more generally as an ongoing process, not a finished product. Therefore, I would be extremely grateful to receive any

feedback, comments or suggestions that might help us make OBL even more effective and enjoyable for an ever greater number of learners. My up-to-date contact details can be found online.

A LOOK AHEAD AT WHAT'S TO COME

If you are still not sure whether this book is for you or if you would simply appreciate an overview of what you can expect to encounter over the coming pages, this final section provides a brief outline of the overall structure of the book, including a short summary of the content of each chapter. The book can be roughly divided into three parts. In the first part, **Chapters 1 to 3** present a theoretical overview of the key concepts and ideas underpinning OBL and employing (curated) objects more generally in learning. They also provide a more historical and contextual perspective on OBL and the collections that can be employed for learning and research. The second part (**Chapters 4 to 7**) entails a focus on closely working with and investigating objects – generally one at a time – from a variety of perspectives. Put simply, in these chapters we will explore what and how we can learn from engaging with material culture through a range of disciplinary and interdisciplinary approaches. The third and final part (**Chapters 8 to 10**) explores the possibilities for actively communicating with and through objects, including digitally and physically exhibiting them as well as thinking about audiences and the ethical, political and environmental implications of OBL. Having sketched out the three parts of the book, the following provides some more detail on what will be covered in each chapter.

Part I: Objects, collections and collecting

Chapter 1 provides a background to OBL and positions it within educational theory, material culture studies and museums and collections practice. It begins by considering a range of definitions for key terms underpinning most of the book, including the different words commonly used for different kinds of objects.

Following this, [Chapter 2](#) introduces an essential context for working with objects from curated collections. It aims to offer readers an appreciation of the long history of collecting as a cultural practice and consequently the knowledge, understandings and meanings we can derive from objects in collections. The chapter also discusses how to go about finding an appropriate collection to work with and provides practical exercises for getting started with object analysis.

Finally, [Chapter 3](#) considers the history of collections from an alternative perspective, with a particular view to understanding the colonial contexts within which most Western collections have been created. Appreciating this context and being able to critically assess how this impacts both objects and the people who come into contact with them is an essential part of the OBL process.

Part II: Understanding and analysing objects and materials

[Chapter 4](#) focuses on materials, the stuff that objects are made from, and introduces a range of perspectives from which to study, research and think about materials in a number of different ways, including material science and material culture perspectives. Like most chapters, it also includes some practical exercises to test and further explore the concepts and ideas introduced.

[Chapter 5](#) explores how objects are made or, if they are natural things, how they have come about by paying attention to the sequences and processes involved in their creation. It also discusses how we may be able to identify such processes and what they can teach us about the objects and the people that made and used them but also about ourselves.

[Chapter 6](#) follows on from the focus on the making (and growing) processes discussed in [Chapter 5](#). It adopts a biographical approach by investigating whether objects have social lives of their own and, if so, what this can teach us about them, the communities they once were part of and those they are part of today.

[Chapter 7](#) introduces the idea of psychosocial wellbeing related to working with objects and investigates to what extent objects and collections can support our emotional state and health more generally.

Part III: Exhibiting and communicating with objects

Chapter 8 explores how to communicate with objects and material culture with a variety of audiences. It provides a range of theoretical underpinnings followed by practical approaches to understanding who the target audience is (or should be) and how to appropriately address them, especially through object displays and interpretation (for example, text and graphics).

Chapter 9 explores the vast range of possibilities, but also certain limitations, offered by working with objects digitally. This is particularly pertinent for the post Covid-19 era, with the pandemic having expedited the shift to online provision for so many aspects of our everyday lives. While the chapter discusses digital approaches to object analysis to some extent, its primary focus is on the role of digital technologies in exhibiting and displaying objects.

Chapter 10 reviews key ethical considerations we need to engage with when connecting an audience with objects in an exhibition context. It includes a particular focus on the ethical implications of working with, and especially exhibiting, human remains as part of (public) displays.

Finally, the Conclusions chapter aims to create a space to think about the future of OBL. This includes a reflection on the sustainability aspects of working with museums and collections in education and considering approaches to OBL outside a curated collection (and perhaps even formal education) context. The chapter closes with a summary of the key elements of OBL discussed throughout the volume and a final exercise.

Each of these 11 chapters are structured in a broadly similar way, starting with a list of key features and intended learning outcomes. This is followed by a core of text, accompanied by boxes containing case studies, examples and exercises, designed to illustrate how facilitated object engagement might be organised. At the end of each chapter, readers will find a brief section of further reading and useful resources. The layout of the book is meant to facilitate easy and accessible reading without having to frequently skip back and forth between sections (for example, to check references or definitions). However, if you are looking for a particular topic, there is an index at the end that will hopefully make it easy to find what you are looking for. In this short opening ‘How to use this book’

section, I have chosen not to adhere to the general format of text boxes and exercises, although it has a short further reading and resources section.

FURTHER READING AND RESOURCES

- Candlin, F. and R. Guins (2009). *The Object Reader*. London: Routledge.
- Caple, C. (2006). *Objects: Reluctant witnesses to the past*. London: Routledge.
- Chatterjee, H. J. and L. Hannan (eds) (2015). *Engaging the Senses: Object-based learning in higher education*. London: Ashgate.
- Paris, S. G. (ed.) (2002). *Perspectives on Object-Centered Learning in Museums*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Pearce, S. (ed.) (1994). *Interpreting Objects and Collections* (Leicester Readers in Museum Studies). London: Routledge.

Acknowledgements

This book draws on over 15 years' experience in teaching with objects and material culture and ten years of leading an undergraduate module (at UCL) entirely dedicated to OBL, as part of which I facilitated some 400 students engaging closely with items from UCL's collections. While OBL is a relatively new pedagogy, as mentioned in the previous section, it builds on the pioneering work by a small number of scholars whose work has been foundational for the writing of this book. I cannot claim to have coined the phrase 'object-based learning'. This honour must go to my colleague and mentor Helen Chatterjee, who in 2015 gave me the opportunity to join UCL and work with its incredible collections, for which I will be eternally grateful.

I would also like to acknowledge all the contributors to the UCL Object Lessons module since 2015, who have helped to shape this book. They include Bill Sillar, Adam Drazin, Ian Carroll, Subhadra Das, Alice Stevenson, Andrea Fredericksen, Tannis Davidson, Hannah Cornish, Liz Blanks, Delphine Mercier, Tabitha Tucket, Jack Ashby, Mark Carnall, Ignacio Echeverria Faccin, Sarah Dwyer, Margaret Clegg and Stacy Hackner. Over the years I have also been lucky to work with an excellent group of teaching assistants who each brought their own unique perspective to objects: Rachele Dini, Yunci Cai, Kelvin Chua, Helene Birkeli, Cathy Lucas, Amanda Ford Spora, Esme Elsdon, Kitty Brandon James, Panos Kratimenos, Sophia Diamantopoulou, Arendse Lund, Killian Baeshel, Sophia Diamantopoulou, Alex Martin, Ruth Mason and Chloe Ward.

Perhaps most importantly, I would like to thank all of the 400-plus students who have joined me for the Object Lessons module every year since 2015. Being part of their OBL journey has been one of the main motivators for writing this book.

I would also like to express my gratitude to Dhara (and colleagues) from UCL Press for her ongoing support and especially undying patience.

Finally, I would like to dedicate the book to Vesna for putting up with and commenting on the never-ending drafts as well as Anyah and Róisín for their inquisitiveness, which has over the years greatly helped me in refining my methods.

PART I

OBJECTS, COLLECTIONS AND COLLECTING

Here we focus on the theoretical, conceptual, contextual and historical underpinnings of object-based learning (OBL) and working with curated collections in educational settings more broadly. [Chapter 1](#) provides a general introduction to OBL, including definitions of a range of central concepts and an outline of the most important ideas, theories and models upon which OBL is based. [Chapter 2](#) widens the context of OBL to look at the history of the practice of collecting, which ultimately resulted in many of the museums that exist today and that provide the backbone for people interested in working with curated objects. The chapter also includes a brief focus on what readers who do not have ready access to a museum or other collection might do. Finally, [Chapter 3](#) hones the focus specifically to the colonial context within which so many contemporary collections were created and the legacy of this much-debated heritage. All three chapters are illustrated with exercises and examples, largely drawn from across UCL's museums and collections.

1

Learning with things

An introduction to object-based learning

The key features of this chapter are:

- defining object-based learning (OBL) and how it works;
- the educational benefits of learning with material culture;
- tactile knowledge, multisensory learning and the importance of touch;
- subject-specific and transferable skills acquisition;
- how to get started with OBL;
- further reading and resources.

After reading this chapter, readers should be able to:

- grasp what OBL is and how it works;
- understand the key educational theories that underpin the practice of OBL;
- discuss how OBL supports learning of disciplinary and interdisciplinary concepts as well as transferable skills;
- prepare for and carry out a range of simple OBL activities.

As outlined above, as a general introduction to the theoretical and educational background of OBL, this chapter focuses on the pedagogical power of learning with objects and material culture. It includes some of the most important educational theories that underpin OBL, covering topics such as active, experiential and social learning, and how material culture relates to them. The chapter also contains a discussion of the opportunities for skills acquisition that OBL offers – focusing especially on so-called soft or transferable skills – and presents examples and data from research that illustrate this. Having provided a theoretical basis, the final part of the chapter introduces a number of practical approaches and exercises designed for getting started with OBL. The chapter concludes by outlining some of the most important additional readings and resources regarding active, research-based and experiential learning within a material culture, museums and collections context.

WHAT IS OBJECT-BASED LEARNING?

The term object-based learning (OBL) refers to any facilitated learning activity that draws on multisensory engagement with material culture (see [Box 1.1](#)). OBL can involve a broad range of items such as museum objects, biological specimens, books and artworks, as well as everyday objects. While OBL as a pedagogical term has only been coined relatively recently (Chatterjee and Hannan 2015), using material culture for educational purposes is not a new thing. There is a long-standing tradition of employing physical objects, artefacts and specimens (see [Box 1.2](#) for definitions of each of these terms) in learning activities, in both structured and less formal educational contexts.

BOX 1.1 WHAT IS MATERIAL CULTURE?

Material culture is a term that came to prominence in the 1990s, primarily in the fields of archaeology and anthropology in what has been termed the ‘material turn’. It can be (most broadly) defined



as the relationship between people and things (Miller and Tilley 1996). In other words, it is primarily concerned with the meanings that humans ascribe to the material things (both natural and human made) that make up the world around them. In archaeology, it usually refers to the material remains associated with a particular type of evidence (for example, burials) or those left behind by a specific group of people, such as the Bronze Age population of Britain. Similarly, in anthropology, it tends to be used to describe the material objects produced and employed by or associated with a particular community that is under study, such as the Khanty people of Siberia (Jordan 2003) or African American families in the United States (Mosley-Howard and Evans 2000).

Practically, for the purposes of this book, I will use the term material culture quite liberally to include all the material objects (see Box 1.2) that make up our contemporary world or made up the worlds of people in the past. See also Chapter 4 for further discussion of the importance of materials in OBL.

BOX 1.2 WHAT DO WE MEAN BY OBJECT?

When referring to OBL, and in this book object more broadly, I take this to encompass a range of things including those that specialists would refer to as artefacts, artworks, manuscripts, library and archival items and specimens. While I will mostly refer to all of these simply as objects, in places in this book you will find the more specialist terms being used, as it is important that students of OBL and those working with materials in collections have an understanding of what each of these terms delineates. Consequently, here are some brief definitions of each of the most important ones.

Artefact

The term 'artefact' generally refers to archaeological, anthropological (ethnographic) and/or historical objects that have been produced by



humans (or in some cases other hominins, such as *Homo erectus* or *Homo heidelbergensis*). Artefacts can be made from lots of different organic and inorganic materials, including stone, bone, wood, fibres, clay (for example, pottery and bricks), teeth and skin, as well as many others. When the term artefact is employed, the objects in question are often assumed to be everyday items; however, even prestige objects made of expensive, precious materials that may have been exchanged or traded over long distances are often classed as artefacts.

Artwork

The term 'artwork' is probably familiar to most readers, and it is likely to be obvious what it stands for. Artworks are recognised works of art such as sculptures, paintings, prints, drawings, collages, installations and other artistic endeavours, usually curated in a collection (whether a private one or that of a public art museum or gallery). There can be a fine line between artworks and artefacts, but generally the term artwork tends to be limited to works from the historical and contemporary periods, while, with some notable exceptions, artistic creations from prehistory tend to be described as artefacts. Having said that, commonly employed phrases like 'Palaeolithic cave art' clearly highlight the significant overlap between the two.

Commodity

A commodity is an object of trade and commerce that is usually part of a market environment. The concept was first coined by Karl Marx in *Das Kapital*, where he writes that the 'commodity appears as the elementary form of wealth ... it is first an external object, a thing which satisfies through its qualities human needs of one kind or another' (Dragstedt 1976, 7). The key about commodities is that they have an exchange value defined in relation to other items (most commonly financially, through a price to be paid for them).



Gift

This is perhaps one of the most obvious and self-explanatory terms in this list. Gifts are usually objects given from one person to another, without the expectation of receiving anything in return (at least not immediately). But gifts do not necessarily have to be material things. For example, one could give someone the gift of an activity or service, such as a holiday or membership of an organisation. But for the purposes of this book, the term gift shall be primarily limited to objects. It might seem unusual to include gifts in the definitions for objects here; however, as will become clear in [Chapter 6](#), they represent an important category of objects in anthropology.

Good

Usually employed in the plural, the term goods – similarly to commodities – refers to objects that are part of economic or commercial transactions. In simple terms, goods are usually objects that are produced for sale and that can subsequently be bought and sold. In economics, the term good can also represent assets which have a tangible, physical form in contrast to services (OED [2025a](#)).

Manuscripts and rare printed books

Manuscripts are texts and pieces of writing – sometimes illustrated – that generally stem from a time before book printing had been invented (in Europe in the fifteenth century CE and in Asia possibly more than half a century earlier). However, the term ‘manuscript’ can also be applied to later works that are written by hand rather than printed. Rare, printed books are generally books from the first few centuries of book printing (that is, pre-1900) of which only a limited number of copies have survived.

Library and archival items

These are items – often text based and printed matter, but can also include manuscripts and audio and visual material (such as



photographs, sound recordings, films and videos) – that have been curated in an archive or library collection. Manuscripts and rare books are usually also seen as part of library or archival items.

Specimen

The term ‘specimen’ is most commonly used in scientific – especially natural history and anatomical – collections, as it generally refers to ‘objects’ that represent or stand in as an example for an entire species or wider group of objects. For example, most natural history museums may only have one type of a certain animal on display, representing all the types of this animal known. Strictly speaking, such ‘representative’ objects are known as type specimens; however, the term specimen is now applied to most objects found in natural history, medical and other scientific collections.

Thing

The term ‘thing’ is usually applied quite liberally (and often colloquially) to any physical object that is something that can be seen and (at least in theory) touched. There is a significant body of writing about things, dating back to the early twentieth-century philosopher Martin Heidegger (1967) and later developed into a whole body of theory (Brown 2004, 2015).

Among many communities around the world, physical objects and materials form the basis through which cultural knowledge, including crafts and customs, is transmitted. Such practices have long-standing traditions and are frequently many millennia old. What is perhaps slightly newer is the assertion that engaging with materials and objects can also be helpful for acquiring abstract understandings of complex concepts, beyond learning a craft or skill. This, in fact, is one of the key strengths of OBL. In this first chapter we will explore the theoretical underpinnings of a distinct pedagogy based on hands-on, embodied experiences with material culture and assess some of the evidence for the effectiveness of this approach. This will include a review and brief summary of the most important literature that

informs OBL, as well as some suggestions for further reading and resources for those readers who wish to engage with the topics touched upon in greater depth.

Defining objects

In outlining what OBL is all about and how it works, the first thing to do is to define what the word object (in the context of OBL) actually stands for. The *Oxford English Dictionary* tells us that the original meaning of the word object – dating back to the fourteenth century – is ‘something placed before or presented to the eyes or other senses’. However, in current use the term is more generally employed to describe ‘a material thing that can be seen and touched’ (OED 2025b).

In short, any physical item that can be seen or touched could in theory be referred to as an object. We will deal with the concept of digital (as opposed to physical) objects in [Chapter 9](#). However, in order for the term to be useful, a little bit more specificity is required. Many disciplines, professions and areas of life that regularly deal with objects – such as anthropology, archaeology, commerce, material science, library, museum, archive and collection studies as well as natural history and many more – have developed their own terminology to refer to the ‘objects’ that they mostly work with. The most important of these – many of which we will encounter repeatedly in this book – are outlined in [Box 1.2](#).

OBL AS AN EDUCATIONAL APPROACH

In an educational context the main objective of object-based activities is to enhance critical thinking, both subject-specific and interdisciplinary knowledge, broader understandings (including making connections) and skills acquisition. Therefore, OBL can be employed successfully in both disciplinary and interdisciplinary settings. However, it could be argued that once physical objects are introduced into a learning environment, it is very difficult to strictly adhere to the boundaries of just one single discipline. Rather than this being a problem, this should be seen as a good thing, as it is the connections we make between objects, sets of knowledge,

subjects and disciplines that help us truly make sense of what we have learned. This may even enable us to go beyond learning about what is literally in front of us by constructing new meanings and bodies of knowledge ourselves. Regardless of whether the primary objective of an object-based activity relates to learning within a specific disciplinary context or stretches across several disciplines, underlying OBL are a number of fundamental educational principles and theories. In order to give readers a general understanding of this pedagogical basis of OBL, the most important of these will be briefly discussed here, before moving on to consider different contexts within which OBL may take place.

Authentic and experiential learning

An essential tenet of OBL is that it supports experiential learning. Introducing material objects into the learning environment gives the learner the opportunity to generate concrete experiences. These experiences can in turn help them to master abstract concepts and encourage active experimentation, which then may lead to a new set of concrete experiences and so on. This process has been expressed in Kolb's (1984) cycle of experiential learning (Figure 1.1).

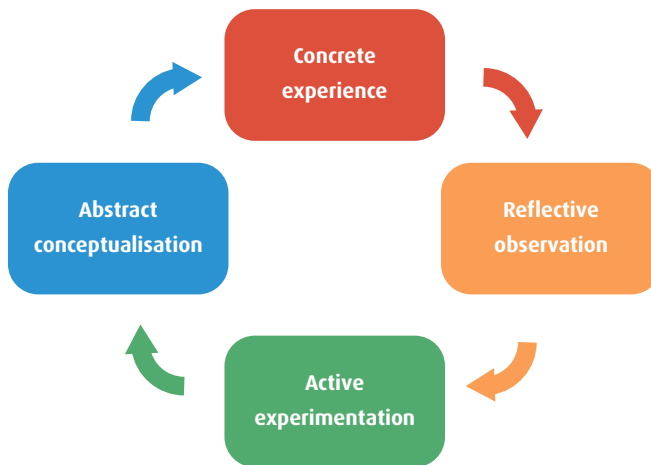


Figure 1.1 Kolb's (1984) cycle of experiential learning (redrawn by T. Kador).

Kolb's model is based on the work of earlier theorists in psychology and education such as Dewey (1899) and Piaget (1929). The key in the experiential learning process is that the learner is actively involved in the cycle of learning. While Kolb did not necessarily think about working with physical objects in developing this theory, it is easy to see how objects can be integrated into it. Having had a concrete experience, through encountering an object, the learner is able to reflect on their observations, which can ultimately allow them to move on to active experimentation; this can involve manipulating the object or also mentally experimenting with it. Such experimentation can then facilitate learners to make their own meaning and come up with more abstract conceptualisations. Importantly, that initial experience with the object continues to serve as a reference point that the learner can refer back to at a later point.

Before being able to experiment freely with their new insights gained from encountering an object, the opportunity presents itself for learners to generate some abstract concepts of their own. Such concepts are sometimes referred to as threshold concepts (Meyer and Land 2003), and in line with Kolb's cycle of experiential learning, one particular strength of using objects in a learning context is their ability to help learners master such concepts. Threshold concepts are defined as core concepts that, once understood, transform the perception of a given subject, phenomenon or experience, allowing a learner to move on to a 'higher' level of comprehension (Meyer and Land 2003). They can be an essential part of discipline-specific understandings, including the basic principles of rock formation in geology, those of perspective and vanishing point in art and art history or that of stratigraphy in archaeology. While any such concept can be readily defined theoretically, they can be understood much easier and more quickly through a practical exploration with physical objects. For example, geological rock samples can be explored to learn to distinguish the different geological processes that produced igneous, metamorphic and sedimentary rocks; artworks can be closely studied to spot the techniques artists use to create perspectives; or an archaeological excavation trench can be observed to see how stratigraphy works in action.

There are, however, also threshold concepts that transcend disciplines and are thus of more general relevance, Again, objects

frequently lend themselves excellently to master such interdisciplinary concepts. For instance, objects can provide unique opportunities to discuss questions of value and ethics, such as in relation to the collection, curation and public display of human remains, which I will discuss further in [Chapter 10](#).

While objects lend themselves well to learning about a range of often ‘difficult’ concepts, many people perceive and respond to the same object in radically different ways. This relates to the fact that we all draw on our own previous experiences when doing so, but also that everyone has different preferred ways and speeds of acquiring and processing information. Some scholars have suggested that this relates to people having different learning styles (Honey and Mumford 1982), while others note that there are multiple ways of being intelligent, focusing on different areas of strength, such as visual, verbal, kinaesthetic (tactile) or social (Gardner 1993).

Both the ideas of learning styles and multiple intelligences have been successful in challenging the notion that people who are good at traditional academic tasks, such as memorising texts and numbers, are more intelligent than people who find these tasks more challenging, but who in turn may be intelligent in different ways. This has led to the development of a series of tests for people to assess where their own learning strengths lie (such as the Myers–Briggs Type Indicators). However, at the same time, these approaches have also been heavily criticised. For example, Coffield et al. (2004) and Baumfield et al. (2004) have questioned the validity of different learning styles, while White (2005) has critiqued the concept of multiple intelligences as being reductive and potentially counter-productive. Despite these sometimes very robust criticisms, most of these authors nonetheless acknowledge that the concepts of learning styles and multiple intelligences have brought about some positive practical applications in the classroom and are certainly preferable to prioritising only one (traditional academic) intelligence over all others.

Regardless of whether or not one subscribes to the notions of different learning styles or multiple intelligences, there is broad agreement that there is a diversity of ways in which people take in, process and memorise information but also that learning should be about much more than internalising information alone (see the discussion below on constructivist approaches). As Wiggins

and McTighe (2011, 6) have put it, '[e]xperiential learning that stimulates multiple senses in students, such as hands-on science activities, is not only the most engaging but also the most likely to be stored as long-term memories'. Most importantly, research has clearly demonstrated that the greater the number of different human senses (that is, sight, sound, touch, smell, taste) an activity appeals to, the more memorable and accessible it becomes (Dudley 2010).

Objects naturally lend themselves to creating opportunities for learners to use the whole range of their 'sensual palette', not just the visual and aural, which tend to be prioritised in Western education. This is one of the core strengths of OBL, as working with physical objects invariably appeals to a range of senses, importantly foregrounding touch (Linden 2015) but also smell, in addition to vision and sound. This also has direct implications for making learning more accessible, most obviously for people with sensory impairments but also for learners who struggle with processing information presented in textual (visual or aural) formats, such as those experiencing specific learning differences. In other words, providing a setting that gives learners the opportunity to explore for themselves, in their own time and with their own approach, what the thing in front of them may mean opens up a vast range of new learning opportunities.

The knowledge continuum

This possibility of learners creating their own meaning, based on their experience (of encountering a material object), links back to another central approach in twentieth- and twenty-first-century educational theory, that of the social construction of knowledge (Schön 1987). In simple terms, this is the idea that learners construct knowledge for themselves based on their own (prior) life experiences (Piaget 1929; Hein 1998; Falk and Dierking 2000). Consequently, this challenges the notion that knowledge is something that pre-exists external to a person and suggests instead that it is generated through an interaction between experiences and ideas constructed in the learner's mind (Piaget 1929).

Put differently, people construct their own meanings, such as when they engage with a museum object but equally when they interpret a lecture slide or read a textbook. However, this is not to say that OBL should be entirely unstructured. In fact, it works best

in a closely facilitated way with a reasonable ratio between learners and facilitators (that is, in relatively small groups) and employing (one of) a range of tested strategies and approaches that educators (and learners) should familiarise themselves with. Moreover, when working with curated collections from museums, galleries, libraries or archives, it is vital that a balance is struck between facilitating maximum personal engagement with the material and ensuring that the integrity of the objects is preserved for future learning and research (see below on handling guidelines).

Another key element when learners encounter objects in a group setting is that they all bring their own experiences and unique capacity to make meanings with them, which – if space is provided for them to share these – can greatly enhance the learning process for everyone.

Socially distributed learning

Most frequently in education, learners will come together in groups, and if an object is encountered by a group of learners, some of their individual experiences and conceptual understandings can be shared, which is another hugely beneficial aspect of OBL. The early twentieth-century psychologist Lev Vygotsky suggested that deeper cognitive engagement can be brought about when learning is undertaken socially (Vygotsky 1978). Rowe (2002) has expanded this idea to material culture by suggesting that objects can play an important role in the co-construction of meaning in a group or social setting. In particular, exploring objects in a social situation allows the processes of meaning making to be distributed among group members – each contributing their own skillset, knowledge and understandings, and consequently through this sharing of ‘cultural capital’, the group knows more than the individual (Rowe 2002, 21).

To maximise the opportunities for such social learning, it is vital that each group member has the opportunity to contribute to the learning activity. The best way to achieve this is to make activities as accessible as possible and enable various forms of engagement. As briefly discussed above, this tends to be relatively straightforward to achieve when working with objects, as they can be explored using a variety and combination of senses. This can be demonstrated in a very brief activity (Box 1.3).

BOX 1.3 EXERCISE: JOINT LOOKING AND MULTIPLE PERSPECTIVES

In a group of between three and ten learners look jointly at the same object. This can be an artwork (it works really well with abstract art), a historical, archaeological object or a natural history specimen. However, it works best if this object is not familiar to any of the learners.

Take a few minutes (at least three to five) to just look at the piece without much communication with one another.

Then take turns to give everyone a chance to share what they see in the object. After everyone has had a chance to express their views, allow the conversation to develop more naturally to permit the different perspectives to enrich one another.

Ideally, at the end everyone can see the item from a number of different perspectives but can also bring together a combination of them at once to see the work in a new light, transforming how they had looked at it individually. (See also [Box 1.4](#) below on slow looking.)

OBL AND MULTISENSORY ENGAGEMENTS

Somatic and embodied learning: the importance of touch

In education, as in so many other areas of contemporary human life (think of television, advertising or the internet), the visual tends to be foregrounded above all the other senses. However, arguably the best developed sense for most human beings is in fact touch rather than sight. When compared to most other animals, our senses of sight, hearing and smell are relatively weak, but human tactile skills are extremely fine-tuned, and primates stand out above most other animals due to ‘their supersensitive fingers and lips’ (Linden 2015, 63).

There has been much recent research interest focusing on the ‘power of touch’ (Linden 2015; Banissy 2023), which played a major factor in the award of the 2021 Nobel Prize in Physiology or Medicine to David Julius and Ardem Patapoutian, for their discoveries

of receptors for temperature and touch (Nobel Foundation 2021). This interest has also been extended to the role of touch in museum and collections contexts (see the collection edited by Chatterjee 2008a, especially Critchley 2008 and McGlone 2008, as well as Pye 2007). When working with physical objects, especially if they can be handled and manipulated, learners can make use of the dense network of neural receptors in their fingertips that, under normal circumstances, are only employed in educational settings to hold a pen or to type on a touchscreen or keyboard.

A range of studies have demonstrated that the benefits of touch extend beyond purely sensory feedback to include emotional, or affective, responses to objects (Critchley 2008; McGlone 2008). This is extremely powerful from a learning perspective (and beyond), as it widens the scope of the experiences discussed by Kolb (1984) from the primarily intellectual and factual to the more personal and emotional realm. We will return to this in greater detail in Chapter 7 on the psychosocial role of objects. There is much research highlighting that when learners can personally relate to a learning activity, such as through an emotional connection, the process of learning, memory recall and meaning making is greatly enhanced (Rowe 2002).

This is not confined to touch, as other senses such as smell can also trigger strong personal memories and reactions. The term for this multisensory engagement is somatic or embodied learning, which Matthews (1998) describes as experiential learning that involves perception through the senses, action and reaction. Somatic relates to the entire sensory system, including the sensory receptors found in the skin (most concentrated in the fingers) and the other senses that humans have at their disposal, that is, vision, hearing, smell and taste.

The power of material objects in learning is thus not only that they can be touched but also that they can often invite embodied engagement with most of the above senses. Admittedly, taste can be more complicated, largely because of our Western notions of hygiene; however, a recent area of research taking OBL approaches to food has emerged (Bassoli et al. (forthcoming)). If the emotional links that this facilitates, as discussed by Critchley (2008) and McGlone (2008), are combined with these wider embodied learning opportunities, learners may achieve a (near) complete immersion of their affective domains

(Krathwohl et al. 1973), including feelings, attitudes and emotions. In other words, they may get ‘lost’ in the object and temporarily forget about their surroundings. This state of complete focus, which in turn can lead to enhanced learning, wellbeing and performance, has been described as the flow state (Csíkszentmihályi 1988).

While multisensory immersion is greatly beneficial in order to achieve such a flow state, this is not to say that it cannot be achieved in cases where touch is not possible. For example, how can we engage meaningfully with visual artworks, which are frequently too precious and/or fragile to be touched and are usually encountered behind barriers or glass screens? One such approach is slow looking.

Slow looking

In response to the fact that most visitors to museums (including art galleries) spend on average less than 30 seconds engaging with any single object or artwork (and this includes the time they spend reading the label), a practice has developed – initially in the United States – that has been termed slow looking (Roberts 2013; Tishman 2018). The key premise of slow looking is that most meaning to be discovered in a work of art takes time. Consequently, it is important to slow down the process of engaging with such works for people to allow themselves to look really deeply at what is in front of them. In order to explore the impact of slow looking on learning, [Box 1.4](#) includes an exercise that you may wish to undertake, based loosely on the work of Jennifer Roberts (2013).

BOX 1.4 EXERCISE: SLOW LOOKING

Steps:

1. Choose a painting, print, drawing or photograph (or other suitable work of art). Ideally this should be in a museum, gallery or other collection space, where you can take your time in front of the work. As an alternative, you can also choose a good-quality image from a book but try to avoid using a digital image on a screen (see below). If there is a



label or caption with the work, try not to read it until the end of the exercise.

2. Position yourself in front of the work, as close or far as is comfortable and that allows you to see the work clearly, both in detail and overall (if you can move closer to focus in on certain details and further away to appreciate the overall composition, at will, that would be ideal).
3. Engage like this with the work for as long as you like, but for at least 20 minutes. Initially, just look but eventually you may wish to take some notes or perhaps even draw some sketches (or anything else that comes to mind).
4. Keep looking and see how many things you can discover that you had not initially noted.
5. Apart from purely visual features, be mindful of the mental connections that you make while looking at the work. Did you manage to make some new and interesting – but perhaps unexpected – links?
6. When you have had enough (after at least 20 minutes), feel free to read any accompanying information with the work (such as titles, labels or captions). Does this change your perception of the work and would you, with this new knowledge, benefit from another look?
7. If so, try and take another five or more minutes to re-engage and see if you can make some fresh discoveries.
8. If you have not already done so throughout the exercise, try and write down the key insights, discoveries and connections that you have made as part of this process.

While slow looking was developed in a fine art context, and hopefully you got to appreciate its effectiveness through the above exercise, there is no reason why the practice could not be widened to include all object engagements, such as artefacts, archival items as well as scientific, natural history specimens and indeed everyday items. Moreover, working with three-dimensional objects will also open the possibility of engaging the other senses, thus moving from slow looking to slow engagement or deep learning. In fact, in recent

years a slow education movement has taken off across many parts of the world, involving practices such as slow cinema (De Luca and Jorge 2016), slow reading (Kingsley 2010), slow radio (BBC n.d.) and other slow but more in-depth ways of engaging with the world.

This movement responds to the ever faster paced – especially digital – engagements that take place within learning environments and the world more generally, and acknowledges, in line with Csíkszentmihályi's (1988) insights, that taking the pace out of our interactions and focusing instead on fewer, much deeper and meaningful engagements brings many learning, wellbeing (see Chapter 7) and other benefits.

One of the key advantages of such slow but deep engagements is that they give us time to make cross-disciplinary connections. The potential of OBL in this regard will be discussed further below. However, next we will also focus on the potential for the acquisition of discipline-specific knowledge and skills.

OBL, (INTER)DISCIPLINARY KNOWLEDGE AND TRANSFERABLE SKILLS

Disciplinary knowledge

As the above examples from geology, art history and archaeology demonstrate, there are certain, so-called threshold concepts in many subjects that are much better understood through an active learning experience, achieved by working with physical objects and materials.

If you are reading this book from a particular disciplinary background or interest, it may be useful for you to think of two or three threshold concepts within your own area; perhaps even write them down. Now try and remember how you managed to master these concepts. Then consider in what way objects could be successfully employed to help you or another learner understand them better, especially for a novice encountering the concepts for the first time.

Beyond threshold concepts, there are of course many disciplines that rely on the use of objects (in the widest sense) for their study.

Think for example of anatomy, anthropology, archaeology, geology and zoology (which I have already mentioned). During the early years of many such disciplines (in the nineteenth and early twentieth centuries), working with physical objects was a mainstay of learning and therefore many ‘old institutions’ of learning (such as universities founded prior to the twentieth century) have developed their own (teaching) collections and museums. However, the extent to which such disciplines make use of museum collections for their education (at least in the West) has steadily declined since the second half of the twentieth century, to the extent that many universities disposed of, dispersed, sold off or gave away their collections (Arnold-Foster 2003).

In recent years, roughly since the beginning of the twenty-first century, with the rise of OBL, we have seen the beginning of a resurgence in the use of objects and collections in most of these subjects and disciplines. This phenomenon can be connected with a broader material turn in the arts, humanities and social sciences (see [Chapter 4](#) and Hicks 2010). It has led to many long-forgotten, or at least under-used, collections being ‘dusted down’ and reinvigorated and others being repurposed for educational use.

Moreover, university museums and collections, museum educators and OBL specialists have started to make the case for the inter- and transdisciplinary learning potential of collections. They are pointing out the value of working with natural history collections for non-zoology students and with art collections for non-art historians, by exploring what we can learn from material culture beyond strict disciplinary divides.

OBL and interdisciplinarity

While, as we have seen, certain subjects clearly benefit from working with collections from a disciplinary perspective, when working with objects from curated collections, they rarely only represent one single discipline. In fact, most such objects naturally lend themselves to being approached from several different disciplinary and also more inherently cross-disciplinary perspectives. Take for example a specimen from a natural history collection, such as a thylacine (Tasmanian tiger) skeleton from Australia (see also [Chapter 3](#)). This specimen can be useful for the study of mammal evolution and in particular the relationships of the different species within

its genus, including the relationship between marsupials (only found in Australia) and mammals elsewhere in the world, which all neatly comes under zoology. However, this skeleton is also a cultural artefact; as we will see in [Chapter 3](#), it has been ‘collected’ and prepared in the nineteenth century and can reveal interesting aspects about historical approaches to museums, collecting, curatorial and conservation practices. Moreover, as specimens such as this one could be relatively easily obtained in the 1800s but are now extremely rare as the animals concerned are now extinct, this can teach us important lessons about European colonialist expansion, human population growth, climate change, pollution and other human-induced extinction events. Finally, we can also consider representations of such specimens in art, especially the visual arts and literature and how their depictions have changed over time. In short, a specimen collected for a specific purpose in the past lends itself easily to a range of ever more complex discussions at multidisciplinary and interdisciplinary levels.

[Chapters 4 to 8](#) will highlight how this works both in practice and theoretically by presenting different perspectives, which will be illustrated with practical examples drawn from a range of objects and specimens from different museum contexts. Moreover, in [Chapter 3](#) and Conclusions, we will look specifically at the potential of collections in helping us come to terms with histories of colonialism and questions of sustainable development.

OBL and transferable skills

In addition to the above discipline-specific and interdisciplinary sets of knowledge that can be acquired through OBL, working with objects also lends itself readily to the acquisition of broader transferable skills. These are skills and abilities that can be applied widely beyond education and are beneficial in a broad range of potential occupations and situations. They include problem-solving, team working, synthesising information and researching a topic, as well as public speaking and presenting, to name but a few. Although transferable skills, by definition, do not belong to any particular discipline, they are not the same as interdisciplinary understandings.

Research on the benefits of OBL carried out at UCL (Sharp et al. [2015](#)) has revealed that students show the greatest improvement in

skills like communication, team working, observation and analysis after participating in OBL activities. For example, among the 432 students surveyed, nearly 94 per cent stated that their observation skills had improved, while over 68 per cent noted improvements in their communication abilities and over 55 per cent responded that their team-working skills had improved as a result of taking classes involving OBL. While this significant increase in observation skills may be self-evident from the discussion so far, we will also see how OBL can help learners to improve their team-working and communication skills in later chapters.

GETTING STARTED WITH OBL

Having reviewed some of the evidence for the benefits of learning with objects, the logical next step is to start exploring and engaging with some actual objects. To make a start, it is often helpful to select objects around a particular topic or theme. Having said that, this does not mean that they all need to be very similar types of objects or even come from the same collection. Perhaps most importantly, for the first time of engaging with OBL, I would recommend starting simple, with objects that are relatively readily available and straightforward to use. Also, just to add that if you have completed the exercises in [Boxes 1.3](#) and [1.4](#), you have already started with OBL, as both basic observations and slow looking are central tenets of object analysis.

While I would argue that there are great benefits in working with objects from museums and other curated collections (see [Chapter 2](#)), as mentioned previously, OBL can be successfully facilitated with contemporary and/or everyday objects, including the objects that you may have with you right now wherever you are (such as in your bag or pockets) or that are in your home. Consequently, the final exercise in this chapter can be carried out with either museum or everyday objects. However, if you are able to use museum objects, please always bear in mind the guidelines for safely handling them (see [Box 2.5](#) in [Chapter 2](#)) and consult with the collection's curator on any other considerations to bear in mind, both for your own safety and the protection of the object.

BOX 1.5 EXERCISE: BLIND OBJECT DATE

For this exercise you need to work in pairs. It should ideally be conducted within a class setting, with a facilitator selecting and passing the objects. However, if everyone is playing fair and honestly, it could even be done outside of a regular class and with non-museum objects. If working with everyday items, it might be best to pick something interesting and challenging that is not readily familiar to the person you have partnered up with. Once each member of the pair has an object ready (that the other cannot see) you can begin working through the following steps:

1. One person in the pair is given (or chooses) an object, which the second person must not see. You can play this sitting back-to-back so you look away from each other or with the object being shielded by a screen between the two participants. (Tip: a cardboard foolscap folder works really well as screen for this [\[Figure 1.2.\]](#))
2. The person without the object needs a pencil and a sheet of paper to start, as they will be drawing whatever the other person describes.
3. The person with the object in front of them begins to describe it, using simple but clear descriptive language. If the object is a familiar item, such as a pair of glasses, please avoid referring to the object by its name; instead, the object should be described through the material, shape, colour and size of its components. For example, 'this object has two equally sized circular shapes, about 3 cm in diameter, made out of transparent plastic and spaced about 1.5 cm apart with a small, grey connection like a bridge between them ...'.
4. Another important part of this exercise is that only one person – the one describing the object – talks, while the other is not allowed to ask questions. They should just listen and draw.
5. Equally, the person describing the object is not permitted to look at the drawing (and give instructions on how to improve it) until the exercise is finished. This should take around five to six minutes.



6. Ideally, there should be a second round where the pair swaps jobs. However, a new object is required for this, which the person now drawing has not seen.
7. At the end, the two players can compare the original objects and the drawings they have each produced, before participating in a discussion on their experience of both drawing and describing. Was one of them easier or more difficult than the other? What difference did it make in which order they completed the jobs (did they first draw or describe) and what did they learn from this?



Figure 1.2 Students participating in 'blind object drawing' at UCL Object-based Learning Lab (photographs: M. Hinkley).

As with threshold concepts, which are difficult to explain theoretically but click into place once one masters them, the point of the blind drawing exercise becomes clear to anyone who completes both jobs for the first time. It highlights starkly the importance of clear, descriptive and unambiguous language and a shared understanding when communicating about objects and facilitates a closer engagement with objects. It also becomes readily apparent that this is not about drawing skills – although clearly being able to express oneself visually does no harm – but about employing drawing as a way of knowing (Ingold 2011) and to facilitate a deeper engagement with the item placed before you.

In fact, all of the exercises in this chapter focused on getting you to engage with objects on a closer-up (and slower) level than you may be used to, really taking your time and carefully taking in what you can see, feel and perceive in front of you. The exercises in the following chapters will further build on this approach, but in the meantime feel free to practise slow looking (individually and in group settings) and blind drawing again.

FURTHER READING AND RESOURCES

This section highlights a number of key readings and other (including online) resources for engaging with some of the core themes touched upon in this chapter in greater depth.

Texts on object-based learning

The first publication to formally employ the term ‘object-based learning’ is Helen Chatterjee’s (2008b) article ‘Staying essential’. However, while referred to as ‘object-centred’ rather than ‘object-based’ learning, the foundations of much of the practice can be found in Scott Paris’ (2002) *Perspectives on Object-Centered Learning in Museums*. As the title suggests, the focus of the book is on museum settings. Readers who are especially interested in the application of OBL in higher education contexts would be well advised to consult *Engaging the Senses: Object-based learning in higher education* (2015) by Helen Chatterjee and Leoni Hannan. This book clearly highlights the role objects may play in skills acquisition and in working in interdisciplinary ways across

different higher education contexts. Readers who are interested in case studies and examples of how OBL has been applied may also wish to consult Thomas Kador and colleagues' *The materials of life* (2017) and *Object-based learning and research-based education* (2018).

Theories of learning

Earlier in this chapter we encountered a number of important pedagogical concepts. Here I provide references and links to resources for some of the most prominent ones. For texts on active and experiential learning, readers may wish to consult David A. Kolb (1984). To further explore the ideas and discussions on learning styles and multiple intelligences, readers are referred to Peter Honey and Alan Mumford's (2008) *Manual of Learning Styles* and Howard Gardner's (1993) *Frames of Mind*, respectively. As discussed elsewhere in this chapter, both of these approaches have been heavily critiqued; John White (2005) offers a strong rebuttal of multiple intelligences, while Frank Coffield (2012) provides a critique of learning styles.

Multisensory engagements

Multisensory engagements overall (that is, involving a range of senses) are discussed by Jonathan C. Matthews (1998), while readers especially interested in touch may wish to consult David J. Linden (2015) for the scientific background to touch and Michael Banissy (2023) to explore the psychological aspects. For the role of touch applied to working with objects, contributions in the books by Helen Chatterjee (2008a) and Elizabeth Pye (2007) will be especially useful.

Slow looking

Shari Tishman's (2018) book on slow looking is the ideal introduction to the practice. Readers who are interested in reading about a practical example of slow looking may also wish to consult Jennifer Roberts' (2013) article 'The power of patience'.

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2

Collecting, collections and collectors

The key features of this chapter are:

- a brief history on museums, collecting and (curated) collections;
- the motivations for collecting objects and its consequences;
- the roles of museums in society;
- the practice of curating and what it means;
- the role of university museums and collections;
- identifying or creating a suitable teaching and/or handling collection;
- what to do if you do not have access to a collection;
- further reading and resources.

After reading this chapter, readers should be able to:

- demonstrate an understanding of what museums are and how, when and where they came about;
- critically reflect on the history and legacy of collecting (especially from the early modern period to the present);



- understand what university museums and collections have to offer, especially for teaching and learning;
- identify the collection(s) that would be most appropriate for their needs and how they can access them;
- take practical steps to access and work with a curated collection.

Have you ever wondered why we have museums, what their role is in society and how they came to be? If not, perhaps take a few seconds to think about this and reflect on how – or whether – museums are relevant to your life. Perhaps there is even one particular museum that you have a special affinity with. What is it that makes this institution important to you?

While your answers to the second and third questions may be highly personal to you, museums, especially in the Western world, are clearly seen as important institutions. Virtually every major city in Europe, North America, Australia and many other parts of the world has at least one museum, and most of them have several. In fact, I would like to invite you to see if you can find a large town or city that has no institution that could be described as a museum (see definitions in [Box 2.1](#) below) or a nation state that does not have any institution that could be described as a national museum.

This chapter will provide a brief background to the history of museums and the practice of collecting objects more generally. What drives people to collect stuff and what are the consequences of collecting for society at large? Then the chapter will turn to look at the specific role of academic or university museums and collections, before moving on to a practical perspective on how to best access and work with a collection in your vicinity.

As already outlined in [Chapter 1](#), object-based learning (OBL) does not depend on museums and their objects, as it is perfectly possible to engage in object-based activities with non-museum objects, such as modern, mass-produced and/or everyday items. However, the practice of collecting things appears to be fundamental to human engagement with material culture, and many museums began as one or a number of such collections. They provide a ready-made resource for intensive object engagements. Furthermore, having the

opportunity to work with material from curated collections brings with it a range of benefits compared to working with other objects, which we will explore later on in this chapter.

WHAT ARE MUSEUMS AND WHY DO THEY EXIST?

Most people will have a strong association with the word ‘museum’, hopefully largely positive, but clearly for some people the idea of a museum may bring up bad memories of hours of boredom, looking at ‘old things’ or, worse, of institutional power and exclusion. Either way, on hearing or reading the word many will immediately conjure up a mental image, which frequently may relate to a grand (relatively) old building, perhaps with columns on the exterior, giving it the feel of a classical building like a Greek or Roman temple. It is likely this ‘mental museum’ will have large interior spaces, stuffed with objects in glass cases and/or paintings on the walls. While many countries, cities and towns around the world have such stereotypical museums, such as the British Museum in London, the Louvre in Paris, the Pergamon in Berlin, the Smithsonian in Washington, DC or the Hermitage in St Petersburg, clearly there is a much greater diversity among the many small and very different types of museums around the world. An interesting perspective on this is Orhan Pamuk’s ‘modest manifesto for museums’ (Pamuk 2012), which argues for the need for very different kinds of museums to the above. But what, then, is it that unifies such a diverse range of institutions that allows us to call them all museums?

Box 2.1 provides some of the current definitions of what a museum is. It should be noted that these definitions – and even the need for having them – are constantly being debated and regularly updated to reflect the changing world that museums are part of.

BOX 2.1 DEFINING MUSEUMS

A simple dictionary definition of a museum is:

A building or institution in which objects of historical, scientific, artistic, or cultural interest are preserved and exhibited. Also: the collection of objects held by such an institution.

(OED 2025a)



However, things get somewhat more complicated when asking people who work in or with museums for definitions.

The UK Museums Association has developed the following definition of what constitutes a museum since 1998. The definition includes museums that work with historical collections and objects as well as art galleries.

Museums enable people to explore collections for inspiration, learning and enjoyment. They are institutions that collect, safeguard and make accessible artefacts and specimens, which they hold in trust for society.

(Museums Association 2024)

According to the most recently agreed definition by the International Council of Museums (ICOM):

A museum is a not-for-profit, permanent institution in the service of society that researches, collects, conserves, interprets and exhibits tangible and intangible heritage. Open to the public, accessible and inclusive, museums foster diversity and sustainability. They operate and communicate ethically, professionally and with the participation of communities, offering varied experiences for education, enjoyment, reflection and knowledge sharing.

(ICOM 2022)

To this we must acknowledge that the process for agreeing this new definition of museums among ICOM members (which replaced an earlier definition from 2007) has been a slow and difficult one and took over three years.

As we can see from the UK Museums Association definition, there is a direct link between museums and collections, whereas ICOM's definition broadens this to include heritage (both tangible and intangible). So, museums are institutions that contain collections of objects, which hold 'historical' value to humans. The other thing that these definitions have in common is an explicit focus on learning (or

study) and enjoyment, which could be seen as communal or societal goods. Hence, museums are viewed as sites of learning, yet they are not classed as educational institutions in the same way schools or universities are. Instead, they facilitate learning (and cultural understanding) through the medium of the heritage collections they generally house (but see below on a relatively recent development of museums without objects/collections; see also Coates (2024) and Owen et al. (2002)).

This publicly beneficial, educational role of museums – at least in spirit – incidentally goes right back to the beginnings of what Pearce (1994) has termed the ‘modern museum’. We will explore this further below. But to understand better why museums exist we must briefly consider their history and some of the main motivations for collecting objects.

WHY DO PEOPLE COLLECT ‘STUFF’?

There are many ways in which people collect things; for instance, council workers collect litter, while someone partaking in a charity event may collect sponsorships. However, the kind of collecting that leads to museums and curated collections is somewhat different. This difference lies in the fact that this type of collecting forms part of a conscious, and usually systematic, process of creating a set or group of objects: a collection. This ‘is a set of objects that forms some kind of meaningful though not necessarily (yet) complete whole’ (Macdonald 2006, 82). In other words, there is a rationale behind bringing a range of objects together (see [Box 2.2](#)).

BOX 2.2 WHAT IS A COLLECTION?

According to the *Oxford English Dictionary*, a collection constitutes a ‘number of objects’, such as ‘scientific specimens, objects of interest, works of art, etc., collected or gathered together [and] viewed as a whole’ (OED 2025b).



Therefore, to 'collect is to gather objects belonging to a particular category the collector happens to fancy' (Alsop 1982, 70). Or put another way, a 'collection is an obsession organized', hence it 'implies order, system, perhaps completion' (Aristides 1988, 330).

There is a rationale behind bringing a range of objects together, and there is reciprocity between the objects and the collection, which both 'contribute to and derive extraordinary meaning from the entity (i.e. the collection)' (Belk et al. 1991, 178). Thus, there is an assumption that the value of having objects assembled into a collection is greater than the sum of its individual parts, as each constituent (object) within it contributes to its meaning and/or value but in turn also takes meaning and value from being part of the collection. This value is generally of a scientific or cultural nature but can equally be monetary.

BOX 2.3 WHAT IS CURATION?

Other terms that we have already encountered a number of times are 'curation', 'curated' and 'curator'. Consequently, it might be useful to briefly discuss/define the meanings of these terms at the outset of this chapter.

While there is a verb 'to curate', you are most likely to come across the noun 'curator' in relation to a job title of a person who works in a museum and/or is responsible for a collection.

The term comes from the Latin verb *curare*, which means 'to care for' or 'to arrange', and the English verb 'to curate' refers to the activities involved in looking after and preserving the exhibits in a collection or museum and in selecting, organising and presenting items for exhibition. It therefore follows that a curator is the 'official in charge of a museum, art gallery, library, or other such collection; a keeper, custodian' (OED 2024).

The motivations for collecting or creating collections are manifold and can relate to scientific interests, educational purposes (that is, to demonstrate certain concepts), a personal passion, economic considerations or a combination of several of these factors. Some of these motivations will be explored further in the following sections (see [Chapters 3 and 4](#)), and a more detailed discussion is available in the literature (for example, Pearce 1994, 48ff.). They may also become apparent by considering the long history of the practice of creating and curating collections and ultimately museums, which we will consider next.

A BRIEF HISTORY OF MUSEUMS AND COLLECTING

The section will focus on the development of museums and collections in a largely European context, although the earliest evidence for the practice of establishing collections can be found in contemporary West Asia and North Africa (that is, the Middle East), alongside the invention of writing and many other key cultural practices that have had a global impact. The section offers a very brief journey, passing some of the most important milestones in the development of Western museums from prehistory to the twenty-first century. However, it is by no means an exhaustive or comprehensive review. The further reading and resources section at the end of the chapter provides references for readers interested in engaging with the history of museums in greater depth. Moreover, [Chapter 3](#) will present an alternative perspective on collecting, the creation of collections and museums as practices deeply steeped in the history of colonialism and empire.

Prehistory to the medieval period

Accounts of the history of museums (for example, Abt 2011; Hopkins 2021) frequently start in classical antiquity with the *Mouseion* or library of Alexandria around 280 BCE (see below). However, it is clear that the practice of collecting material culture goes back much further in time, deep into prehistory. For example, there are numerous debates about the role and purpose of the widely documented practice of hoarding and caching artefacts during the Neolithic, Bronze Age and later periods. In the absence of written records, the intentions of the

collectors responsible for such assemblages cannot be confidently determined, and they are frequently interpreted as either an economic measure (with the intention of retrieving the material at a later point) or a religious sacrifice. This may well be the case for most of the known caches; however, the practice points to a concern with taking objects out of their life cycle, collating them with other objects and putting them beyond their regular use. As we will see over the following chapters, this is one of the aspects at the centre of curatorial and museum practice.

Moving on from these early examples of stowing objects away, with the advent of writing, we can become much more confident about the intentions behind the collection and preservation of objects. In fact, there appears to be much common ground between the practice of keeping objects for future generations and of creating written records (also available to future generations). It is therefore not surprising that several examples of what could be called early museums are frequently also referred to as libraries or archives. Even in the present, the separation between museums and libraries, on the one hand, and archives and collections on the other hand, is a very fluid one, with all three of the definitions for museums we have encountered above (see [Box 2.1](#)) being largely applicable to most libraries (as well as archives and collections). Moreover, from a material culture perspective, many library items, such as (old) books and manuscripts, could be approached as artefacts, just like other museum objects. The separation between text-based media (library items) and artefacts becomes even more tricky when such items are made of clay or wood, such as the tablets containing the texts in the following examples.

The origins of archives in the Middle East

Possibly the oldest known such collection is that at Ebla (c. 2500–2250 BCE), located in present-day Syria and at the heart of one of the earliest centralised civilisations during the early Bronze Age. Excavations in the 1960s produced thousands of clay fragments, amounting to around 2,500 complete tablets, containing cuneiform inscriptions. They comprise a combination of official documents, stories and other records and appear to have been organised in a systematic manner. In other words, the archive of Ebla represents one

of the earliest known curated collections and provides evidence that the practice of systematic collecting goes back over four millennia. Other important sites with large collections of cuneiform texts on clay tablets (interchangeably referred to as archives and libraries), mainly dating to the second millennium BCE, are known to exist elsewhere in modern-day Syria, Türkiye (Turkey) and Iraq, including the sites of Ugarit, Mari, Nippur, Nuzi and Hatussa.

Archives and libraries such as these remained important during the first millennium BCE. Especially noteworthy is the library of the Assyrian king Ashurbanipal (c. 685–631 BCE), which was discovered at the site of ancient Nineveh in modern-day Iraq. The texts, contained on over 30,000 clay tablets, reveal that the library represents the first recorded attempt by a ruler (or anyone for that matter) to assemble all the knowledge available at the time in one place for posterity. The library was destroyed in an attack on Nineveh in 612 BCE, during which a fire aided the preservation of many of the clay tablets by partially baking them, thus hardening the clay.

Another such collection, in present-day Iraq, is that associated with Princess Ennigaldi in the ancient city of Ur (dating from c. 530 BCE), which is occasionally referred to as the oldest known museum. Excavations in the 1960s revealed artefacts (not just clay tablets containing texts) from a variety of time periods, some dating back as far as the start of the second millennium BCE and originating from across southern Mesopotamia. Moreover, it appears that these remains were systematically organised and labelled using inscribed clay cylinders. The most common interpretation for the purpose of Ennigaldi's 'museum' is that her royal dynasty used the objects to represent the history of the region and to demonstrate its lineage through links to previous ruling dynasties in Mesopotamia.

While today the practice of creating archives, libraries and museums is seen as an essential Western and more specifically European thing, as the above examples demonstrate such practices existed already for over two millennia before the first evidence for European influence in such institutions emerges.

The first European collections

Although located in Egypt and therefore in North Africa, the library and *Mouseion* of Alexandria (c. 280 BCE) represents the first known

example of a ‘European’ collection. The link with Europe comes from the fact that Egypt was then ruled by Ptolemy I Soter (367–282 BCE), successor to Alexander the Great (356–323 BCE), and the *Mouseion* he commissioned drew inspiration from the methods of Aristotle (384–322 BCE), who is said to have been Alexander’s teacher (Abt 2011). The *Mouseion*’s collection seems to have been dominated by ancient texts, largely contained on scrolls of papyrus (as well as vellum and parchment), with an effort to translate those written in other languages into Greek. However, there are some suggestions that it also housed non-textual ‘objects’, but evidence for the contents and extent of such a collection is very limited, as unfortunately no actual remains from the *Mouseion* have survived into the modern era.

Contrastingly, there are better accounts for the contents of the collection established in the near contemporary city of Pergamon (in another Greek satellite kingdom) located in contemporary Türkiye. It is reported to have contained paintings and statues from places that King Attalus I Soter (269–197 BCE) had conquered. A third such collection (called the library of Celsus) is known from the neighbouring kingdom of Ephesus, also located in modern Türkiye. Contemporary writers report of rivalry between these collections, highlighting the political importance that the practice of collecting and displaying artworks, texts and statues had assumed. This practice, in particular of displaying materials originating from conquered territories, appears to have been adopted by the rapidly expanding Roman Empire, turning ancient Rome into what has been termed ‘a museum of Greek art’ (Pollitt 1978, 157).

Following the arrival of Christianity and the decline of the rule of Rome in Central and Western Europe, collection and display of classical sculptures continued in the Byzantine Empire and in particular in its new capital of Constantinople (modern-day Istanbul, Türkiye). The most prominent example of this is the Lausus collection that was established by and named after a high-ranking official at the court of emperor Theodosius II (401–450 CE). The important difference between earlier collections and that of Lausus is that the latter involved the display of what were then deemed to be pagan objects by a Christian collector, thus providing evidence of a secular appreciation of material from other cultural and religious contexts.

There are also accounts of the existence of a great or ‘royal’ library at Constantinople, some claiming that it continued until its eventual destruction during the fourth crusade in 1204. However, to date these have not been confirmed by archaeological or historical evidence (Wilson 2003).

Treasuries, reliquaries and universities

During the early medieval period (c. fifth to the tenth centuries CE), centres of learning – and with them the practice of collecting texts and objects – mostly moved to explicitly religious contexts. In Europe (and North Africa) they were largely represented by the emerging Christian monasteries and their libraries and reliquaries. However, a number of European royal dynasties also established treasuries, special places for storing their precious objects, as reflected in the Crown Jewel exhibition in the Tower of London or the *Kaiserliche Schatzkammer* (Imperial Treasury) in Vienna’s Hofburg. While for the most part (royal) treasuries were out of bounds except for a very select and privileged few, medieval reliquaries were often more accessible. Strictly speaking, the term ‘reliquary’ refers to the container, such as a small box or shrine, within which a religious relic, such as a body part of a saint, is contained. These are frequently made from precious metal and are ornately decorated. However, more colloquially the term reliquary has become applied to the building or room within a church or monastery that contains relics. These spaces were frequently, and continue to be, open to the public, especially religious pilgrims who wanted to see and perhaps even touch the relics. Relics were hugely important in the Catholic tradition to the extent that an entire section of Canon Law is dedicated to them (Vatican n.d.).

The later Middle Ages (c. eleventh to fifteenth centuries CE) saw the emergence of the first European universities as centres for more secular learning, which often involved not only the establishment of a library but also other collections for learning and research purposes (Hopkins 2021). Similarly, there was an increasing interest in collecting artworks and other objects among members of the nobility. Some of these collections in turn provided the foundation for a number of Europe’s most famous museums. For example, the Museo del Prado in Madrid began as the collection of the Spanish royal family in the

sixteenth and seventeenth centuries, the Kunsthistorische Museum in Vienna brings together the *Kunstammer* of Ferdinand II of Tyrol and that of emperor Rudolf II of Habsburg, while the Hermitage Museum in St Petersburg began as the private collection of empress Catherine the Great in the eighteenth century.

From the Renaissance to the Industrial Revolution

The beginnings of museums in the modern sense

The ‘rediscovery’ of the works of classical writers, and especially Aristotle, in the fifteenth century and their wide circulation thanks to the newly developed printing technology brought with it a fresh engagement with Aristotle’s analytical methods. This led to efforts at classifying and organising objects and specimens from nature, and not only those encountered in Europe but also those brought back by colonists, traders and explorers from distant locations all over the globe (see [Chapter 3](#) for more on this). By the end of the century, many scholars, aristocrats and wealthy amateurs had amassed and neatly organised substantial collections of such objects and specimens, which were referred to by a number of terms, including *gabinetto*, *studiolo*, *Kunstammer*, *Wunderkammer* or *musaeum*. The latter seems to have eventually won out over the other names and the *musaeum* became associated with ‘an epistemological structure which encompassed a variety of ideas, images and institutions that were central to late Renaissance culture’ (Findlen 1989, 59).

Given the expensive business of collecting objects from far-flung places, as well as organising, displaying and conserving them, many collectors (who were not wealthy themselves) sought royal or noble patronage for their collections; in turn, a large share of them were eventually gifted, bequeathed or sold to the state or large national institutions. One example of this is John Tradescant’s collection of the 1600s, which was started by John senior (c. 1570–1638) and continued by his son (also called John; 1608–1662). A visitor to the collection in 1634 described it as a place ‘where a Man might in one day behold and collecte into one place more curiosities than hee should see if hee spent all his life in Travell’ (Ashmolean n.d.).

John Tradescant (junior) bequeathed the collection upon his death in 1662 to the wealthy treasury official and royal advisor Elias Ashmole (1617–1692). A collector himself, Ashmole expanded the collection and in the 1670s decided to donate it to the University of Oxford. The university erected a building to house the collection and in 1683 the Ashmolean Museum opened its doors to the public. While the museum moved to a new location in the 1840s, the original building still exists and the Ashmolean Museum remains the main archaeology and fine art museum in Oxford to this day.

In the 1680s, the idea of a national museum did not yet exist; however, just over half a century later this had changed when, in 1753, upon the death of another collector – Hans Sloane (1660–1753) – the British Museum was established with a grant from parliament, in order to house his collection ‘on behalf of the nation’. Similar institutions followed elsewhere soon thereafter, in many cases representing the opening of royal collections to the wider public (Abt 2011). This included the Louvre in Paris, which began as an idea under the monarchy in the 1770s, but was first opened to the public during the French Revolution in 1793 and turned into a national institution under Napoleon Bonaparte in the early 1800s.

At the start of the nineteenth century, several similar (national) museums began to emerge around Europe and beyond, such as the Prado in Madrid and the Rijksmuseum in Amsterdam. By the end of the century, the majority of national cultural institutions across Europe and North America that are still recognised today had been established. The second half of the nineteenth century also saw the establishment of the first public libraries in Europe, sometimes supported by legislation, such as the Public Libraries Act (1850) in the United Kingdom.

The idea of exhibitions was further transformed in the middle of the nineteenth century with the beginning of international mega-events such as *The Great Exhibition of the Works of Industry of all Nations*, which took place in London in 1851 at the behest of Queen Victoria and Prince Albert (Procter 2020, 73 ff.). This famously gave us London’s Crystal Palace and led to the establishment of both the Science Museum and the Victoria & Albert Museum (Gardner 2022). It would go beyond the scope of this chapter to discuss these events and developments in

greater detail. However, it is worth noting that with the large national museums mostly established by 1900, the key addition to the museum landscape during the twentieth century were the numerous local, idiosyncratic and ‘niche’ museums that can be found across many European, North American and Australian cities today.

The ever greater proliferation and affordability of digital technologies from the onset of the twenty-first century ushered in changes in the way museums operate, communicate with the public and present their collections, which we will revisit in [Chapter 9](#). But these technological advances also led to the establishment of new kinds of museums: those without objects or collections, which are sometimes also referred to as science centres or exploratoria.

To summarise, at the end of this whistle-stop tour through the long history of museums, we can say that while the individual motives that drive people to collect objects may be diverse, idiosyncratic and sometimes even eccentric, the establishment of formal institutions to house, preserve and display such collections has since prehistory been bound up with the centralisation and communication of knowledge – be it literacy, genealogy, history or scientific understandings – and thus, in turn, power. This relationship between museums and power is nowhere more strikingly apparent than in the ongoing debates around decolonising Western museums and collections. We will return to this important conversation in the [next chapter](#).

Following this historical overview of the long history of collecting things and organising them in museums, archives and libraries, it might be useful to put this knowledge to the test in the form of exercise.

BOX 2.4 EXERCISE: APPROACHING AN OBJECT FROM DIFFERENT CHRONOLOGICAL PERSPECTIVES

For this exercise, please follow these three simple steps:

1. Select an object that you wish to discuss. This could be any item from any museum. It may be useful if you have a relatively good knowledge of this object from a contemporary setting. But this is by no means essential. Similarly, you do



not necessarily have to select an object that is already part of a museum collection. While this may make things easier, as a mental experiment you could really work with any material thing.

2. Pick two different time periods, for example prehistory and the Renaissance, or the medieval period and the nineteenth century.
3. Write a few sentences about how your object would have been interpreted and presented in each of these times and what the key differences between these perspectives might have been.

THE ROLE OF UNIVERSITY MUSEUMS AND COLLECTIONS

As we have seen as part of the brief history of museums above, one of the first formal university museums to be established was that of Elias Ashmole (now the Ashmolean) at the University of Oxford in 1683. However, it is clear that universities across Europe housed collections used in research and teaching before then. For example, there is evidence from Europe's oldest university in Bologna (dating back to 1088) that the collection of Professor Ulisse Aldrovandi there accepted regular visitors in the second half of the sixteenth century (Abt 2011; Findlen 1989).

In simple terms, a university museum is an institution that meets the criteria set out in [Box 2.1](#) but that also forms part of a higher education establishment, that is, an academic institution such as a college or university. Despite the importance of university museums for OBL (see below), a thorough discussion of their role and history would exceed the mission of this book. Students with a particular interest in this area may wish to consult Jandl and Gold's (2015) detailed treatment of this topic. The focus here will be on the specific role of academic museums and collections in supporting and developing OBL. While many (especially older and well-established) universities have their own museums, many equally do not. But even if they have no formal museum that is open to visitors (whether just those from the university or members of the general public), most universities will have collections of some form.

In fact, it is probably fair to say that the majority of university museums started out as teaching or research collections. They may have been the result of the foresight (or perhaps obsession) of a single individual or small number of academics who started collecting and/or acquiring objects, artworks or specimens to support their teaching and/or research, or they might have come to the university in the form of a gift or bequest from a benefactor. As we will see in this and later chapters, among the museums and collections at UCL there are examples of collections that started with individual staff members and those that started as a gift. For example, the UCL Art Museum began as a series of bequests, especially one from the British sculptor John Flaxman (1755–1826) and another from the art collector and UCL Founding Member George Grote (1794–1871). On the other hand, UCL's Grant Museum of Zoology began as the teaching collection of Robert Edmond Grant (1793–1874), who was UCL's and, in fact, England's, first Professor of Zoology and Comparative Anatomy (Kador et al. 2018). We will encounter these collections again in the next and later chapters.

Sometimes, when the initial collector died or retired, they left the collection they had established to the university. In turn, their successors may have expanded it further and/or combined it with other collections over the years, perhaps ultimately leading to the establishment of a whole museum. One of the key benefits of having such museums and collections within an academic institution is that generally, within reason, all of their objects are first and foremost there to support the main mission of the institution – that is, learning and research. This can stand in contrast to other national, local or private museums, which may have other key priorities, such as protecting and showcasing a nation's heritage, telling the story of a particular time, place or group of people or raising revenue through admissions.

Working with curated collections

In light of the above, academic museums and collections represent a natural first port of call for anyone interested in working closely with objects and other heritage materials in an educational (especially higher education) setting. This section explores in more practical terms some of the key considerations that working with such collections requires. If, however, your institution does not have any

suitable collection available, the penultimate section of this chapter will provide some practical advice on how it is nonetheless possible to design, deliver and engage with OBL tasks.

When working with museum or similar heritage objects, as opposed to everyday ones, the first thing that needs to happen before beginning handling and closely engaging with them is a discussion about guidelines related to safe working with the collection. If the session involves object handling, then a list of handling guidelines, like the one reproduced in [Box 2.5](#), needs to be discussed so that everyone understands how to safely work with the material.

BOX 2.5 OBJECT HANDLING GUIDELINES

Basic handling guidelines for museum objects

- Never have food or drinks near the objects.
- Remove jewellery and ensure that loose clothing cannot become entangled in objects.
- Prepare and maintain a clear, clean working area (ideally using plastazote mats).
- Ensure your hands are clean. You may have to wear gloves (if in doubt always wear gloves except for handling paper).
- If the object needs to be unpacked, remember exactly how it was packed so you can put everything back correctly when finished.
- Ensure all labels, tags and so on associated with the object stay with it.
- Do not use materials that could stain objects, such as pens (always take notes/draw sketches with pencils).
- Cradle the object (hold from below) and ideally hold it with two hands.
- Never hold the object by its handles or other parts that stick out, as they often represent an object's weakest and most fragile parts.
- Be aware of any loose or detachable parts (hold the object with two hands and from below).



- Always hold objects over a table. Never raise them above shoulder height.
- Where possible, do not pass objects directly to others. Put them back on the table for someone else to pick up.
- Clean and/or disinfect your hands after handling objects (some conservation measures, especially historical ones, may have left toxic traces).
- If anything looks unusual or an object appears/becomes damaged, do not ignore or try to hide it and bring it to the attention of a member of staff.

These guidelines represent a general template that can be applied to many museum collections of materials that are generally robust enough to be handled. However, the relevant curator is always the central authority to agree on the specific possibilities and limitations of working with a given collection in a close-up and hands-on way.

The guidelines should not be viewed as a chore (or tick-box exercise), a necessary evil that just needs to be completed. Instead, they could be turned into the jumping-off point for interesting conversations about the collection and the objects and materials within it and how everyone can derive maximum benefit from it (without causing major damage). Especially if the curator is on hand to participate in such a conversation, it can be greatly beneficial for the learners, as they can gain some valuable and direct insight into how an expert approaches the material. Very often this can also be easily combined with some information about the collection's history and background. This may be relevant to learners in understanding and interpreting the objects and may allow them to make wider links to the history and context of their institution. Moreover, they will come to appreciate the important expertise the curator brings to the collection, usually far beyond what is recorded in the catalogue or other available information.

Having said all that, while usually greatly enhanced and supported by access to curated collections, OBL is by no means dependent on the existence of such collections within an institution. Therefore,

we will end this chapter with some options for institutions without recourse to their own heritage material.

What if your institution does not have its own collection(s)?

Before considering some possibilities regarding alternative collections to work with, I should add that it is surprising how many institutions have at least some form of collection, even though they may not be widely known or advertised. For this reason, it is always worth spending some time investigating this and having conversations with colleagues from across the institution before seeking access to an 'external' collection. But in the absence of having any suitable collections available within your institution, there are several alternative approaches to OBL that can be taken. The following two are perhaps the most obvious and straightforward ones.

First, as mentioned previously, OBL can be successfully facilitated with contemporary and/or everyday objects, including objects that learners themselves have on their person or in their homes. The exercise in [Box 2.6](#), which has been inspired by the writings of John Hennigar Shuh (1999), illustrates how such quotidian objects can become starting points for interesting learning activities and/or research.

BOX 2.6 EXERCISE: LEARNING WITH EVERYDAY OBJECTS

Take an object that is currently in your immediate vicinity. This can be a personal object belonging to you (like a set of keys, a pen, a pair of glasses, a mobile phone, money) or another object that just happens to inhabit the space within which you are reading this.

Now try to answer the questions below for this object and then come up with three to five questions of your own based on your initial answers to the first five prompts. If you cannot answer any of them immediately, what kind of further research, investigation or knowledge would you need to be able to find those answers?

Material(s) and properties:

- What is its visual appearance? (shape, colour, texture etc.)
- What does it feel like? (texture, weight, hard/softness, temperature)



- What does it sound like? (for example, when you touch, tap or move it)
- What does it taste or smell like? (if it's safe to do so)
- What material(s) is it made of or does it consist of? (here it is useful to start with broad categories such as metal, plastic, wood, stone, ceramic, glass and then move on to a more specific level of aluminium, polystyrene, marble, and so on)

What else would you like to know about the object?

Ask three to five questions of your own and try to answer them as best as you can.

You may wish to look at [Figure 2.1](#) for inspiration regarding the types of things you could find out about an object.

Learning from objects

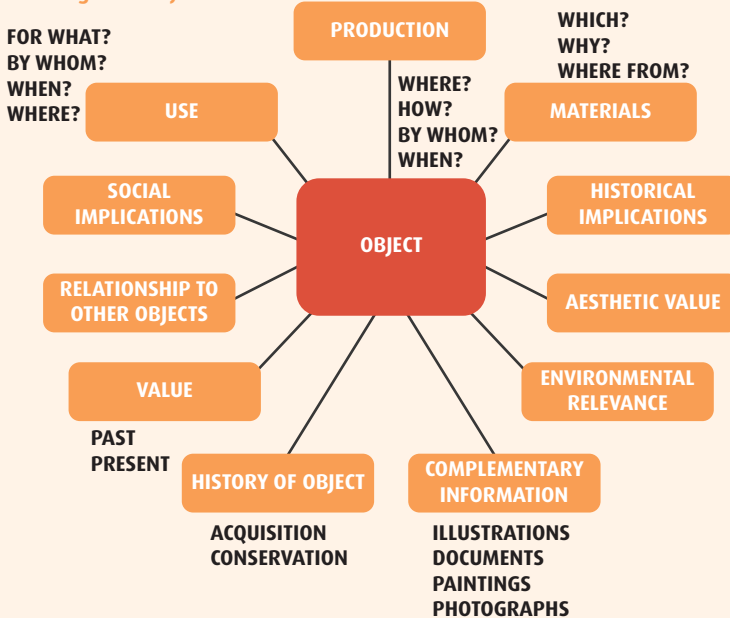


Figure 2.1 How we learn with objects. Based on Durbin et al. (1990) (redrawn by T. Kador).

This exercise can be carried out equally well with everyday or museum objects. Apart from respecting the handling guidelines (discussed above), the key thing when working with genuine museum objects is not to rush into asking the teacher, curator or other students lots of questions about the object. Instead, try to spend some time quietly on your own with the object to see what you can find out about it by just looking at it and (if possible) touching it. Like in the slow looking activity from [Chapter 1 \(Exercise 1.4\)](#), note down or sketch any ideas you have or discoveries you make, as they are certain to lead you on to further insights. And in case you do feel a little stuck, you may wish to refer back to [Figure 2.1](#) for potential investigative avenues to pursue.

Working with external institutions

Another way to get started with OBL if your institution does not have any suitable material available is to find a collection, gallery, archive or museum located in your vicinity that you can collaborate with. In most countries, you will find such institutions that are happy to facilitate student engagement and support education, given the fact that the vast majority of museums globally have an educational remit as part of their core mission. Therefore, it should hopefully not be too difficult to find a suitable organisation to partner with. The forms that such partnerships can take are almost endless, but may include one or several of the following:

- object loan boxes (many museums operate such schemes);
- a behind-the-scenes museum/gallery tour with a curator or museum educator;
- object handling sessions in the museum;
- museum outreach (including objects) to a school or university;
- student volunteering and internship opportunities in a museum/collection;
- OBL training sessions for educators and/or students provided by museum staff (either on museum or school/university premises).

Even if there is a museum or collection (or perhaps several) within your institution, such external partnerships can nonetheless be

extremely beneficial for both the students (as well as the university more generally) and the cultural heritage institution. Either way, a key step in beginning with OBL is to investigate the different opportunities for working with heritage collections both within and outside your own institution.

Apart from being able to offer access to objects, museums may also be able to support wider research and projects with collections, including exhibitions, and could probably provide an audience to engage with. These are extremely valuable links and opportunities that we will explore in greater detail in the final part of this book.

FURTHER READING AND RESOURCES

Definitions of museums and collections

As apparent from the discussion towards the start of the chapter, defining what a museum is and does (or should do) is far from a straightforward process. Readers interested in these debates are advised to take a look at the relevant ICOM and Museums Association web resources (see below).

The history of collecting, collections and museums

While there is no comprehensive book on the history of collecting, there is a journal dedicated to this topic (the *Journal of the History of Collections* [JHC], published since 1989). Having been in operation since 1989 and published around 80 issues (each containing over ten articles) to date, this publication is an excellent resource for accessing up-to-date scholarship on collections research but less so as a concise introduction on the history of museums or collections. A good starting point on this topic is Sharon Macdonald's (2006) *A Companion to Museum Studies*, which contains a number of relevant contributions. Moreover, the websites of the Ashmolean and British Museums, respectively – as well as those of some other museums – have useful sections on the origins of their collections and the practice of early modern collecting more generally.

The importance of university museums and collections

As already alluded to above, Stefanie S. Jandl and Mark S. Gold's (2015) *Handbook for Academic Museums* provides a relatively comprehensive treatment of the role of university and academic museums. There is also a specific committee on university museums (UMAC) as part of ICOM (International Council of Museums), and this committee's website provides a range of interesting resources, including conferences, guidelines and its own journal.

Practical guidance on working with objects

While there is a proliferation of examples, case studies and suggestions for how to work with objects (including object handling), there is a limited amount of verified, credible material to help those new to the practice to get started. In fact, this lack of resources was one of the initial motivations behind writing this book. However, there are a number of printed and web resources that readers could consult to get a broad overview of the approaches available. In 1990, English Heritage published *A Teacher's Guide to Learning from Objects* (Durbin et al. 1990), although it may be difficult to access this guide, as to my knowledge it is not available digitally. Also from the 1990s is John Hennigar Shuh's 'Teaching yourself to teach with objects', republished in Elizabeth Hooper-Greenhill's *The Educational Role of the Museum* in 1999. More recently, a number of institutions have started to provide web resources to support OBL. There is UCL's own OBL page (UCL n.d.), which provides links to a number of resources, case studies and readings. Similarly, several other universities and museums have developed OBL pages, including the University of Sussex, the University of Miami and the Smithsonian Museum. Finally, a recent pan-European collaboration, largely of academic museums and collections, has resulted in the creation of a specific online resource to support learners, educators and museum professionals entitled *Teaching with Objects* (see below). This provides online case studies, discussions of key topics and a space for information exchange.

Web resources

Museums and collections

Ashmolean Museum:

<https://www.ashmolean.org/collections/article/introducing-the-collections>

<https://www.ashmolean.org/history-ashmolean>

British Museum:

<https://www.britishmuseum.org/about-us/british-museum-story/history>

International Council of Museums (ICOM):

<https://icom.museum/en/resources/standards-guidelines/museum-definition/>

ICOM Committee for University Museums and Collections (UMAC):

<http://umac.icom.museum/>

Journal of the History of Collections:

<https://academic.oup.com/jhc>

Museums Association:

<https://www.museumsassociation.org/about/faqs/#what-is-a-museum>

<https://www.museumsassociation.org/museums-journal/news/2022/04/new-museum-definition-finally-agreed/>

Smithsonian Museum:

<https://www.smithsonianmag.com/blogs/smithsonian-education/2022/06/07/the-case-for-training-teachers-in-object-based-learning/>

Teaching with Objects (Erasmus+ Project):

<https://www.teachingwithobjects.org/>

University resources for OBL

Macquarie University, Sydney:

<https://teche.mq.edu.au/2018/05/unleashing-the-pedagogical-power-of-object-based-learning/>

UCL:

<https://www.ucl.ac.uk/culture/object-based-learning-laboratory>

University of Miami:

<https://academictechnologies.it.miami.edu/explore-technologies/technology-summaries/object-based-learning/index.html>

University of Sussex:

<https://openpress.sussex.ac.uk/ideasforactivelearning/chapter/object-based-learning-active-learning-through-enquiry/>

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3

Objects, collections and their colonial legacy

The key features of this chapter are:

- the complex and intimate relationship between many contemporary museums and collections and colonial practices;
- how these practices affect not only our interaction with the institutions themselves but also our understandings of the world (both in the past and present);
- the legacy of colonialism in relation to a range of practical examples from UCL museums.

After reading this chapter, readers should be able to:

- critically appraise the role colonial practices have played in developing many modern museums and collections;
- discuss how the shadow that this colonial legacy casts over contemporary institutions may affect the learning that happens with the aid of their collections;



- **propose ways to challenge, resist and overcome this colonial undercurrent with a view to making museums more open, accessible and diverse places;**
- **consider whether such approaches could potentially even lead to turning museum collections into tools for decolonisation.**

This chapter partially tells a similar story to the previous one but from another perspective, focusing in particular on the period from when the first ‘modern’ museums emerged in Europe – out of cabinets of curiosities and similar collections of wealthy European men – to the present. With the exception of the past 50 or so years, this period coincides with the era of colonial expansion of Western powers and, as we will see, the fact that modern museums emerged and proliferated during this time is no coincidence.

In writing this chapter – more than any other in this book – it is important for me to acknowledge my own positionality as a white male, born in central Europe – in the capital of what used to be the Austro-Hungarian Empire – in the final quarter of the twentieth century. I now live and work in England, in the capital of what once used to be the largest empire in the world. While the Austro-Hungarian Empire was never a very ‘successful’ colonial force, the British Empire clearly was. Moreover, although the institution that I work for – UCL – was established as an alternative to the ruling class and Church of England dominated Oxbridge institutions (Harte et al. 2018), it is just as entangled in the colonial enterprises as these two other, more famous universities. Established in 1826 at the height of the British imperial project, UCL and the collections that made their way into the university’s museums have the imprints of empire written all over them. This is true for all the three major UCL museums – the Grant, the Art and the Petrie Museums – as well as the Science, Archaeological and Ethnographic collections and substantial parts of the library’s Special Collections. Therefore, being based at UCL and in London – with all its other institutions directly linked to the British Empire – provides a particular opportunity to critically analyse the role colonialism played not only in shaping

these institutions and their collections, but also in shaping Western understandings of the world that are still dominant today.

THE COLONIAL MUSEUM

Anyone with even just a remote interest in museums will have come across the frequently heated debates regarding the return of objects and human remains to former colonies from which they were taken. In a chapter focusing on the colonial legacy of museums and collections, such debates provide an obvious focal point. However, before exploring these and other issues linked to this colonial context, we need to review the definition of what museums actually are, followed by exploring the meanings of some of the other key terms discussed in this chapter.

Museums and colonialism: some definitions

Revisiting the definition of museums

In the [previous chapter](#) we explored the most up-to-date definitions of what museums are, advanced by the UK Museums Association and ICOM, respectively. While these definitions aim to be as open, inclusive and current as possible – responding to the obvious colonial legacy of the museum sector – they still clearly reflect a Western, Eurocentric view of heritage and the world more generally. In fact, Azoulay goes so far to suggest that the language of these definitions serves to solidify ‘the rights of museums to objects expropriated from other peoples’ (Azoulay 2019, 64). Therefore, it might be useful for this chapter, which seeks to challenge these perspectives, to offer an alternative set of definitions of what museums might be, from the point of view of (formerly) colonised peoples and those that are underrepresented (or not represented at all) in museums.

‘Humans are hoarders’, writes Alice Procter; they project their desires and beliefs onto things they collect and make them fit or support their views. ‘A museum is just that desire backed by power, taken to the extreme of ego – it takes truly unshakable confidence to believe that your stuff is significant enough to give to the nation’

(Procter 2020, 15). In other words, from this perspective, museums – especially the large national flagship institutions – are displays of power and ego. Therefore, inevitably they are the displays of wealthy white males, largely of European origin, who have traditionally held the most powerful positions. While, as we have seen in the [previous chapter](#), a large number of museums began life as collections of such wealthy individuals, in many cases their administration has since been taken over by local, regional or national governments, meaning that these institutions now also frequently represent the power of state. Consequently, the objects and collections displayed within them tell the stories not only of the wealthy individuals who collected them – such as John Tradescant, Elias Ashmole or Hans Sloane (see [Chapter 2](#)) – but also of the nation and/or other political entities these items are seen to be representative of. Or as Procter (2020, 16) puts it, ‘everything in a museum is political, because it is shaped by the politics of the world that made it’.

[Chapter 2](#) illustrated that since the late twentieth century many different types of museums have developed. Some of these are hyper-local, only focusing on objects and stories from a small local area immediately around the museum and/or a specific event that occurred locally. However, as we have also seen, going back to the cabinets of curiosities, many museums – especially large so-called encyclopaedic ones – display items collected from all over the world. This almost invariably means that their histories are tightly entangled with the story of colonialism. While this is especially prevalent among museums in countries that once used to be colonial powers, it is by no means limited to them, as there were far-reaching networks of distribution from the former colonies right across Europe and beyond (Stevenson 2019). As Azoulay (2019, 100) puts it, they ‘were established in numbers at the turn of the nineteenth century and at the beginning of the twentieth century as looted objects flooded many parts in Europe and the United States’. Given the important role of the colonial project for the history of museums and collections and therefore for the content of this chapter, it will be useful to define what colonialism actually means, but also what the meaning of decolonising might be.

Colonialism, colonising and decolonising

Colonialism refers to the combination of territorial, juridical, cultural, linguistic, political, mental/epistemic, and/or economic domination of one group of people or groups of people by another (external) group of people. European colonialism refers to the various formulas of territorial domination effected by European powers upon non-European people (indeed, upon much of the world), from the late 1400s to the mid- to late 1900s.

(Murrey 2020, 315)

Expressed more simply, colonialism is a form of domination that involves one group of people controlling the territory of another (Horvath 1972, 46) and was practised, especially by European powers, for several hundred years right up until the final decades of the twentieth century. It is important to acknowledge that this was not merely an administrative undertaking and involved in many cases extreme violence, subjugation, enslavement, ethnic cleansing and genocide perpetrated on local populations. After the two world wars, it became clear that the practices of colonisation were no longer tenable, leading to the break-up of the British Empire in 1949, followed by several decades of independence struggles and ‘decolonisation’, especially across the Global South, eventually leading to the independence of India, and many African and Caribbean countries.

Decolonisation was a term first popularised by the French-Martinican psychiatrist, activist and writer Franz Fanon in the 1960s. With Fanon being directly involved in the Algerian struggle for independence from its French colonial rulers, the term initially meant the literal process of a colonial country gaining political independence and self-determination. Since then, it has come to take on the related meaning of critically appraising ‘Western culture and its institutions in order to remove the legacies of hierarchical, racialized thinking towards minorities and other cultures’ (Young 2019). However, Tuck and Yang caution against the danger of turning the idea of decolonisation into a metaphor. They argue that

decolonisation ‘brings about the repatriation of Indigenous land and life; it is not a metaphor for other things we want to do to improve our societies’ (Tuck and Yang 2012, 1). Their argument is specifically formulated for North America, although it can be equally applied across Australasia, Africa, Latin America and other regions with Indigenous populations. Furthermore, the general point that decolonisation must mean concrete steps towards undoing or repairing colonial harm rather than a rhetorical tick-box exercise is equally valid in other places touched by the colonial project. So how can this be applied to a museum context, with so many Western museums containing the spoils of several centuries of colonialism? While museums cannot repatriate land, they can – and increasingly do – return both artefacts and especially human remains taken from colonised countries and their people. These practices are known as restitution – the return of objects – and repatriation – the return of human remains – to their country and community of origin.

We will deal with questions of repatriation in greater detail in [Chapter 10](#), when considering ethical aspects of working with collections and their exhibition, as there will be a particular focus on exhibiting human remains. However, as alluded to at the start of this chapter, the question of the return of objects obtained by force and/or as part of colonial activities has become an extremely hot topic, not just in museum circles but also diplomatically and in the media. Given the colonial context of many collections, which we will explore further shortly, there are vast problematics regarding objects that have evidently been looted, stolen and/or taken by force by colonial powers. In recent decades this has raised the question of whether some (or all) of these items should be returned to the countries from where they were illegally, forcibly or inappropriately removed? This debate has gained particular momentum given that many Western nations have accepted that it is appropriate (at least in some cases) to repatriate human remains, especially of Indigenous people, to their communities (see [Chapter 10](#)). Since the beginning of the twenty-first century in particular, there has been an increasing number of prominent calls for the return for a range of high-profile objects. The most famous examples among them are probably the Parthenon Sculptures (also known as Elgin Marbles) at the British

Museum and the Benin Bronzes, also at the British Museum and several other European museums (Hicks 2020; Challis 2022), the Bust of Nefertiti at the Pergamon Museum, Berlin (Jackson 2023) and Montezuma's head dress at the Vienna Ethnology Museum (Stevenson 2011; Opoku 2012). In addition to claims for the restitution of these ancient artefacts, recent years have also seen a range of court cases involving artwork stolen/expropriated from Jewish people during the 1930s and '40s, which subsequently made their way to major European and US art galleries (Higgins 2006; Moynihan 2023). Especially in the case of the latter examples, there is a strong overlap between the ethical and legal positions of these objects, as in contrast to the Parthenon Sculptures or Nefertiti, there are living descendants for many of these artworks who can demonstrate both a legal and moral claim to them.

Besides these very proactive acts of return, Ashby and Machin (2021, 45) suggest that decolonial practice in museums also involves addressing 'historical imbalances in the narratives represented in museum galleries and programming'. The remainder of this chapter will focus on exploring these imbalanced representations and the role that colonisation and colonialism played and continue to play in contemporary museums and collections.

EXAMPLES FROM DIFFERENT COLLECTIONS

As this is a very big topic, with lots of possible permutations, it might be best to focus the discussion on a limited range of examples related to objects and specimens found in specific collections. These items will hopefully serve to illustrate some of the wider issues at play. To keep this exploration concrete and tangible, we will focus on three UCL museums, the Art, Grant and Petrie Museums, and the collections they hold. We will zoom in specifically on a small number of objects from each of these collections to tell the story of how these objects are linked to colonialism but also how an alternative reading of them could contribute to facilitating a decolonial perspective. Representing fine art, natural history and archaeology (albeit with a specific North African

focus), respectively, these three museums can stand in for a substantial proportion of the wider museum sector, with the hope that the examples given here can find broader relevance in many other contexts. We will begin with UCL's oldest collection, that of the Grant Museum of Zoology, which dates back to the year after the university's foundation.

Natural history, colonialism and extinction

Displays of bone specimens – such as of dinosaurs – animal taxidermy or even full dioramas are a familiar sight within a natural history museum context. But few people would probably consider these as overtly political displays of power. Ashby (2023a) suggests that ‘unlike sectors which have been thinking about this for decades, the practices underpinning [the creation of natural history museums] have not traditionally prioritised recording associated cultural or social histories’. However, as we will see shortly, there can be little doubt of the ‘involvement of natural history museums in the establishment and maintenance of structurally racist perspectives on history’, and this fact is becoming increasingly acknowledged within the sector (Ashby and Machin 2021, 44).

Ashby (2023a) contends that natural history museums are uniquely placed to address questions concerning the ‘entwined human and environmental costs of the colonial project’ and lists four possible approaches as potential places to start with decolonial research in natural history. In fact, all of these approaches, perhaps with the exception of the last one, could be equally applied to most other museums and collections contexts:

1. Focus on a place, for example, by investigating specimens that originated from a country or region formerly under colonial rule.
2. Focus on a person, by following the (paper) trail left behind by a particular collector. Although care must be taken to avoid reproducing such collectors’ invariably white, male and Eurocentric perspective.
3. Focus on an event, such as a specific historical moment linked to the collection of specimens. This could be a particular journey or expedition or even specimens linked to (colonial) wars or conflicts.

4. Start with a taxon, which means focusing on a specific species or group of species, which may have been of particular interest to collectors, such as animals that were very different from European fauna, those of striking appearance or that were considered to have medical applications.

As this book is about object-based learning (OBL) or, in the natural history context, ‘specimen-based’ learning, the example provided here will start with a particular specimen rather than a person or event, but it also directly relates to a specific place.

In [Chapter 2](#) we saw that UCL’s Grant Museum started life in the 1820s as the teaching collection of Robert Edmond Grant. At the same time (that is, from UCL’s founding year of 1826 onwards), the *HMS Beagle* – which later became famous for Charles Darwin’s voyage from 1831 to 1836 (Darwin 2000) – was already engaged in surveying activities in the Americas. Hence, the period of the foundation of the Grant Museum directly coincides with the height of colonial expeditions, resulting in the collection of vast quantities of ‘exotic’ specimens being brought to European museums. It is one of the sad realities of natural history collections like that of the Grant Museum that they contain a substantial section of specimens of extinct and critically endangered species, many of which are from former (British) colonial dominions. This is a point we will return to in the final chapter of this book. In fact, the processes linked to colonisation of these places frequently contributed (either directly or indirectly) to the decimation (or even extinction) of many of these species. Thus, there is a considerable number of specimens that serve as displays of colonial violence and extinction at the Grant Museum. In most of these cases, the extinction was ‘incidental’ due to a combination of factors, including habitat loss (resulting from population expansion and land clearance for farming), overhunting, the introduction of diseases, pests and predators and climate change. However, the specimen we will discuss in greater detail here is possibly the only concrete example of an intentional extinction, which is where an entire species is eliminated on purpose.

Exit the thylacine

We have already briefly met the thylacine in [Chapter 1](#). Also known as Tasmanian tiger or Tasmanian wolf, it was the largest marsupial

carnivore of modern times (Ashby 2017) and was hunted to extinction in little more than a century after the arrival of European colonists in Tasmania (then called Van Diemen's Land). The last known wild thylacine was shot in the early 1930s and the last surviving animal died in captivity (in a Tasmanian zoo) in 1936 (Paddle 2002).

During the nineteenth century Van Diemen's Land was one of the largest penal colonies, with an estimated 75,000 people from Britain and Ireland being sentenced to 'transportation' there between 1803 and 1853 (when penal transportation was officially abolished). In light of this mass 'migration', European settlers (and 'convicts') soon outnumbered the Indigenous population (Boyce 2008). The rapid extinction of the thylacine, the European colonisation of Tasmania and therefore also the plight of Aboriginal Tasmanians are intrinsically linked.

Following the establishment of the first European settlements in Tasmania in 1803, the perceived threats from a mysterious native predator and an Indigenous human population ultimately led to the systematic state-sponsored persecution of both. The eventual outcome was the extinction of the thylacine and genocide against the peoples.
(Ashby 2023b, 246).

During the 1820s and '30s a bounty system was put in place for the pelt of each thylacine (Ashby 2023b), and at the same time a similar reward was established for killing Indigenous Tasmanian people, during a period known as the 'Black War' or 'Tasmanian War' (Pybus 2020). As Ashby puts it, the 'colonial project was fundamentally extractive – of labour, land and natural resources – and Indigenous people and animals were viewed as interfering with that extraction. Colonizers sacrificed them in the pursuit of wealth' (Ashby 2023b, 248). Outlining the close relationship between animals – as natural history specimens – and colonisation, Deb Roy explains that animals 'were victims of imperial violence; they were products of imperial regimes of subjectification; and they were usually marginalized in imperial historiography' (Roy 2015, 70). It was these processes and the continuous contact between the United Kingdom (and London in particular) and colonial dominions, such as Tasmania, that resulted in the remains of animals being brought to London.

Consequently, the Grant Museum of Zoology holds a range of specimens of thylacine ‘material’. These are largely bones, especially skulls, which are likely to have been retained alongside the animals’ pelts after they were killed. Tasmania was declared a separate British colony in 1825, only one year before the foundation of UCL and two years before Grant started his collection for its natural history museum. The only complete thylacine skeleton at the museum (LDUCZ-Z89) formed part of Grant’s original collection and is thus one of its earliest specimens (Figure 3.1). While we have little precise information about the exact provenance (origins) of the specimen and its journey to London, there can be little doubt that it represents one of the animals that fell victim to the cull shortly after a bounty was placed on their pelts in the 1820s and ‘30s. It is even possible that Grant had ordered a specimen to be brought back at a time when they were killed in great numbers. Therefore, the thylacine remains at the Grant Museum are a constant reminder of the destructive force of colonialism. In addition to the extermination of the thylacine, European colonisation resulted in the extinction of at least 28 other



Figure 3.1 Thylacine skeleton from the Grant Museum of Zoology (LDUCZ-Z89). Courtesy of the Grant Museum of Zoology, UCL.

species in Australia alone, as well as a significant reduction in most other (surviving) native mammal (that is, marsupial) populations in the country (Ashby 2016). By extension, the thylacine specimen also serves as a reminder of the genocide perpetrated by Europeans on Tasmanians and other Aboriginal peoples, associated with an attempt to eradicate the Indigenous human population. It is a specimen in the truest possible meaning of the word, representing all of its now extinct species (of marsupial carnivores) but arguably also representing all recently extinct mammals in Australasia and beyond, as well as the crimes against humanity committed by European colonists.

While the colonial legacy of natural history collections (and museums more generally) does not get much starker than genocide and the attempted eradication of an entire population, there are other, more subtle ways in which Europeans (and North Americans) have attempted to write the people of the colonies out of history. One aspect of this, encountered frequently in natural history research but equally present in most other scientific work that took place in European colonies, is the substantial and largely unacknowledged labour provided by members of their Indigenous communities and other 'colonial subjects'. European scientific expeditions were frequently 'relying on Indigenous labour, knowledge and expertise, but ... the colonial framing in which this activity was taking place automatically assumed that this was not important. Credit was not shared' (Ashby 2023a). Similar points can be made in relation to archaeological research, which relied heavily on 'local' labourers, but whose contribution is rarely acknowledged and often the names of local and Indigenous archaeologists are entirely erased from the record. This has clearly been the case for some of the large British archaeological expeditions in North Africa (especially Egypt and Sudan) and the Middle East during the colonial period. Consequently, our second example is taken from the Petrie Museum of Egyptian and Sudanese Archaeology.

Colonial archaeology and racism

It could be argued that in contrast to natural history, there is a more long-standing recognition in archaeology and anthropology of these disciplines' colonial origins (Gosden 1999). At the beginning of this chapter we considered the key restitution debates surrounding items found in some of the world's most iconic museums, such as the

so-called Benin Bronzes (Hicks 2020) or the Parthenon Sculptures at the British Museum. While UCL does not appear to hold equally controversial items – and has previously returned ancient ceramics to Thailand (UCL 2010) and human remains to Australia and New Zealand (UCL 2007; see also Chapter 10) – it has an entire museum based on archaeological research conducted in the ‘colonies’. The Petrie Museum of Egyptian and Sudanese Archaeology (PMESA) started life as a teaching resource for UCL’s Department of Egyptian Archaeology and Philology in the 1890s (Harte et al. 2018, 122ff.; PMESA n.d.). It now houses a collection of over 80,000 artefacts dating from the Middle Palaeolithic (some 500,000 years ago) to the twentieth century, with most of the items collected between 1880 and 1940, the period of the height of British influence in Egypt and Sudan. Although neither Egypt nor Sudan were ever officially British colonies, they were de facto ruled by Britain and under British military occupation continuously between 1882 and 1956 (Lin 2018; Gold 2019).

The career of William Matthew Flinders Petrie (1853–1942) – whom the museum is named after (see Chapter 10) – essentially mirrors that of Britain’s occupation of Egypt, and he excavated in the region (also including several years in Palestine) almost continuously from the 1880s until the outbreak of the Second World War. Consequently, more or less the entire collection of the Petrie Museum could be considered tainted by Britain’s colonial legacy. The same is of course true for substantial proportions of some of the world’s largest and most famous museums (Hicks 2020; Procter 2020). However, there is a specific collection within the Petrie Museum that illustrates particularly well the colonial attitudes of Petrie and his contemporaries.

Petrie as a Victorian head-hunter

The museum has a substantial holding of terracotta heads, comprising several hundred examples largely from the Ptolemaic period (c. 305–30 BCE). However, a sub-sample of approximately 50 among them is contained in a separate tray labelled ‘racial heads’ by Petrie himself. Most of these ‘heads’ were excavated at the site of Memphis in the first decade of the twentieth century. There is evidence that Petrie paid workers extra for the discovery of heads, as he was specifically interested in studying their facial features (Challis 2011). It is very

likely that Petrie's interest in studying these features was linked to his 'friendly working' relationship with Francis Galton (1822–1911) going back to the 1880s, when Galton commissioned him to 'journey up the Nile in 1886–87 to collect "racial types" from ancient monuments in Egypt' (Challis 2013, 82–83). Galton was a wealthy Victorian polymath and inventor, but nowadays is best known for his instrumental role in race science and for having coined the term 'eugenics' (from the Greek 'good genes'). With Galton's support, Petrie created a volume of 'headshots' – photographs taken of heads largely from reliefs on Egyptian monuments – to study their racial characteristics. The book was published in 1887 under the title *Racial Photographs from the Egyptian Monuments* (Petrie 1887). This experience, early in Petrie's career, is likely to have informed his collection strategy for much of his subsequent work (Challis 2013, 82–83), including at Memphis.

As there are some 50 sculpted heads in the 'racial head' collection, there are many to choose from, with LDUCE-UC33278 perhaps being a particularly striking example (Figure 3.2).

In fact, it is worth giving the original label – which has since been changed – in full: 'Terracotta head with black and red paint, showing typical Semitic profile – hooked nose, splayed nostrils, wide up-turned mouth and flat eyebrows' (Challis 2013, 129). It does not need highlighting that the second part of this description reproduces the most striking, racist and stereotypical tropes about the appearance of Jewish people. This in turn relates to a late Victorian and Edwardian obsession – especially in England – about defining the (physical) characteristics of the Jewish 'race'. For example, in 1883 Francis Galton himself produced a range of composite photographs of Jewish schoolboys from East London, published in the *Photographic News* in 1885 (Galton 1885), and the original glass slides he produced incidentally form part of UCL's Eugenics collection to this day (and can be found via their catalogue reference LDUGC-380).

This work was done in collaboration with Joseph Jacobs, a leading English Jewish historian who was 'anxious about the growing number of Jewish immigrants, particularly from Central Europe, to London's East End'. These concerns about working-class Jewish immigration were closely entangled with an 'interest in defining issues of racial difference and characteristics' of Jewish people (Challis 2013, 132–133), as is apparent from Galton's article in the *Photographic News*.



Figure 3.2 Terracotta head from Memphis, originally labelled as being of 'Hebrew' type (LDUCE-UC33278). Courtesy of the Petrie Museum of Egyptian and Sudanese Archaeology, UCL.

They were children of poor parents, dirty little fellows individually, but wonderfully beautiful as I think, in these composites. ... I felt, rightly or wrongly, that every one of them was coolly appraising me at the market value, without the slightest interest of any other kind.
(Galton 1885, 243)

Again, as with Petrie's object label for LDUCE-UC33278, it is striking how Galton's comments rehash some of the common racist stereotypes about Jewish people.

While there was particular interest in Britain in defining Jewish racial characteristics, this was part of a much wider attempt to classify people by their facial features during the nineteenth and early twentieth century or, as Challis calls it, of 'reading race in the face, whether on ancient sculpture or through photographs of living people' (Challis 2013, 85). This 'passion' also extended to the study of human remains and skulls in particular. Again, Petrie contributed greatly to this, especially through the collection of prehistoric human skulls from Naqada for craniological measurements (Stevenson 2019, 54). Craniology is the 'science' of studying the proportions of the human head, which in turn were frequently linked to 'racial types' and individual character traits (such as intelligence, trustworthiness or criminal inclinations). In essence, all these approaches, working with human remains, terracotta heads as well as Roman-era mummy portraits, converged with the objective of using these ancient remains and objects as tools to 'influence modern governance and systems of living' at the time (Challis 2013, 197). For example, the 'racial' heads were directly 'used as archaeological evidence for biblical knowledge in a manner that also justifies the colonial administration of those lands by the British' (Challis 2013, 147). Being conscious of the persecution of Jewish people during the first half of the twentieth century (especially the 1930s and '40s), the treatment of LDUCE-UC33278 within Petrie's collection highlights how the 'search for the "Jewish type" and defining the "Jewish expression", which provided the context for the labelling of a terracotta head in the Petrie Museum as "Hebrew", would have far-reaching consequences for people that were neither scientific or kind' (Challis 2013, 148).

Colonialism on paper: the art museum context

As we have already seen, the most obvious connection between art museums and colonialism is in cases where artworks have been stolen, looted or forcibly removed, such as the examples from 1930s and '40s Germany mentioned above but also including emperor Napoleon Bonaparte (1769–1821) raiding the galleries of European cities and transferring some of their most prized artworks to Paris (Gilks 2013). However, here we will explore a subtler aspect of works of art than their forcible removal. We will focus on what a critical reading of an apparently 'harmless' artwork can tell us about the political (including colonial) context within which it was produced (Procter 2020). Consequently, compared to the items from the Grant and Petrie Museums, the main example selected for the discussion of the art museum context might appear rather 'benign' in its connection to imperialism and colonialist violence.

Braun and Hogenberg's map of London

Dated to 1572, the image in [Figure 3.3](#) shows one of the oldest surviving maps of London, and one of the earliest (probably the second) to show the city in bird's-eye view. It is a print from a copper plate engraving (subsequently coloured in by hand) and formed part of a six-volume atlas of major European cities called *Civitates Orbis Terrarum*, which was produced by Georg Braun (1541–1622) and Franz Hogenberg (1535–1590). Braun, a German theologian, compiled the text and Hogenberg, a Flemish painter and engraver, created the prints.

While the map is an interesting artwork in itself and invites the practice of slow looking (see [Chapter 1](#)), for the purpose of the discussion here we will start by focusing on the text from the 'cartouche' on the left-hand side, which is worth reproducing in full:

London, king of all the cities in England, situated on the River Thames. Caesar, so it is said, called it Trinobantum, it is famed amongst many peoples for its commerce, adorned with houses and churches, distinguished by fortifications, famed for men of all arts and sciences, lastly for its wealth in all things. Goods from all over the world are brought hither on her Thames, as it is navigable for 60,000 paces at high tide.



Figure 3.3 Braun and Hogenberg's 1572 Plan of London, from *Civitates Orbis Terrarum*. Etching and engraving with hand-colouring on paper, 395 x 524mm (LDUCS-4787). Courtesy of the UCL Art Museum.

The final sentence is the key here, remarking that goods from all over the world are transported upriver right into the heart of the city. In his commentary, Georg Braun further elaborates on this point by stating that 'the Thames brings riches from all over the world, since even large vessels can sail right into the city on the tide'. Moreover, the cartouche on the right is dedicated entirely to trade, focusing on London's key role within 'a confederation of many cities and communities, established for safe trading on land and sea' (Braun and Hogenberg 1572). But the penultimate sentence on the left also provides a vital clue, commenting on 'men of all arts and sciences' and the city's great wealth. The fact that these two statements follow one another may not be a coincidence, highlighting the connection between arts, sciences, wealth and global commerce.

The figures in the foreground of the map 'represent two of the principal types of the city's inhabitants', a gentleman and a merchant, respectively, both with their wives, 'who welcome the viewer to the

environs of the city' (Hawker and Cooper 2008, 48–49), further underscoring the tightly knit relationship between commerce and power.

What the map does not show (or make reference to) are the places 'from all over the world' where the goods found in 1570s London came from, although perhaps the clothes worn by the four protagonists might hint at some of them. This map was produced at the height of the Elizabethan period and within 15 years of its production, the first English colony in the New World was established in Virginia (now a state of the USA), named after the 'Virgin Queen' (Donegan 2014). Therefore, this map was created as the starting salvo for England's and soon Britain's (and especially London's) jostle for a leading position in the colonial race.

From enslaved people's emancipation to Black revolution

While the antecedents for colonial power and violence are clearly present in Braun and Hogenberg's map, the work does not display any overt expression of prejudice, superiority or racism. Unfortunately, the UCL Art Museum, like many British, European and North American art collections, does hold a number of works with much more explicit racist themes. One such work is *Slave Emancipation or, John Bull Gulled out of Twenty Millions* (LDUCS-8032). This is a woodcut print, presenting a political satire in cartoon format, which was produced in 1833, some 260 years after Braun and Hogenberg's map of London. The date is significant, as 1833 was the year of the signing into law of the *Slavery Abolition Act* (UK Government 1833). The print forms part (No. 10) of a series of over 130 prints, entitled *Political Drama*, by the famous nineteenth-century satirical cartoonist C. J. Grant (c. 1803–1854). Albeit 'disguised' as a caricature and political satire, this work shows a much starker side of colonialism. It is visually divided into two halves with four white British men on the left and a strongly racist representation of five enslaved African men on the right. All the white and three of the enslaved protagonists have speech bubbles and the sentiments expressed by them are equally racist or reflective of racist tropes and stereotypes. Given this extremely racist depiction and language, I have decided not to include an image of this work here. However, it can be viewed through the UCL Art Museum's online catalogue.

It is not totally clear from the satire whether the cartoonist was critical of the emancipation of enslaved people itself, the rich compensation for enslavers (and the invariable tax burden on the British public), or both. But regardless of their specific political motivation, the work clearly depicts the racist attitudes and stereotypes that underpinned not only the practice of enslaving people but the colonial project more generally. This racist imagery has been described as ‘typical of the nineteenth century caricatures’ (Romain 2012, 15), based on a wider examination of racialised representations of Black people in nineteenth-century visual art (Wood 2000). While the 1833 Act secured the freeing of approximately 800,000 enslaved people held in British colonial territories in the Caribbean, South Africa and Canada, it also guaranteed British enslavers substantial compensation. To fund this, the British Government required a sum of c.£20 million, which it took UK taxpayers over 180 years (until 2014) to pay off (UK Government 2018; Olusoga 2018). Moreover, it needs to be added that the abolition of slavery was by no means the end of colonialism. In fact, Queen Victoria only ascended to the throne some four years after the passage of the Act, and it was 40 years into her reign in 1877 that she was declared Empress of India, thus only then officially coining the British Empire.

To facilitate a critical analysis of the colonial story behind works of art, Alice Procter poses four questions, which echo strongly in relation to both of the works discussed here.

- What is missing?
- Whose eyes are we viewing this story through?
- How has this history been massaged and clipped into a narrative?
- Is it the same old Great White Males, at it again? (Procter 2020, 18).

We have already identified that Braun and Hogenberg’s depiction of London makes no reference to the places where all the riches found in Elizabethan London originate from or the means by which they were acquired. Equally, *Slave Emancipation* presents a white British perspective on the impact of the Slavery Abolition Act, largely on the white British taxpayers. But it also displays a strongly male

perspective, as women in Britain did not get the vote on the same terms as men for nearly another century (with the passage of the Equal Franchise Act of 1928) and notably there are no women depicted in C. J. Grant's caricature.

So how can this strong bias towards white male perspectives in European art collections be counteracted? In an effort to compensate for this heavily skewed perspective, I decided that instead of displaying the racist tropes created by a white British artist, I would include another work from the Art Museum's collection that provides a counter-narrative to those of the first two. *Black Revolution* (Figure 3.4) was produced in 1969 by Lev Mills (1940–2021), then a postgraduate student at the UCL Slade School of Fine Art. Incidentally, the image shows strong links with C. J. Grant's cartoon from 1833, with both displaying a banner that reads 'Free(dom)'. In the centre of the print is a pair of women, one looking straight at the viewer and the other in profile. The former bears a rosette with the name Eugene McCarthy, a Minnesota senator who campaigned for the Democratic Party nomination for the 1968 US presidential election. Given his prominent stance opposing the Vietnam War, he was popular with many African Americans and university students but ultimately lost the nomination to Hubert Humphrey. Towards the top right of the image, the slogan 'Uncle Tom is dead' can be seen, referencing Harriet Beecher Stowe's 1852 novel, *Uncle Tom's Cabin*. While taking a clear anti-slavery stance, the book reinforces many of the negative stereotypes about African Americans, and the character of 'Uncle Tom' itself became stereotypical of a Black person who is 'submissive to whiteness' and 'inimical to black cultural interests' (Richardson 2007, 184).

While *Black Revolution* is not necessarily a depiction of Black empowerment, in contrast to the other two works discussed here, it allows us to view the issue of civil rights, emancipation and ultimately colonialism through the eyes and hands of an African American artist. Although substituting a work that is likely to perpetuate racist and colonialist perspectives with one that strongly counters these viewpoints is not in itself an act of decolonisation, it may create a space for discussions on decolonising – or at least diversifying – collections. Despite the frequently very small number of works by non-white artists in Western art museum or gallery contexts, focusing on those that are available provides a clear possibility for developing



Figure 3.4 Lev T. Mills, *Black Revolution* (1969), lithograph, 735 x 582mm (LDUCS-8218). Courtesy of the UCL Art Museum.

counter-narratives. Moreover, the limited amount of choice that curators of most art collections face in terms of works by artists who are not white, male and of European origins might also serve to highlight that cultural institutions must do better in valuing the work of a more diverse range of artists.

Diversifying inside out and outside in

The absence of the works of artists from a more diverse range of backgrounds is perhaps the most striking example of the legacies of colonial and racial bias inherent in Western collections; however, as we have seen above, even in natural history and archaeology contexts collections are strongly biased towards white, male, European (and largely middle-class) perspectives.

Das and Lowe (2018) have suggested that there is a relationship between this biased representation of white-centred histories in most museums and the background of the majority of museum visitors. In other words, is it possible that the way the narrative unfolds as soon as one walks through the doors of a museum is seen to favour the story of one population group over all others, with people from different backgrounds drawing the conclusion that museums are not for them? The available data on museum visitors illustrates that they may be on to something. In the UK for example, the latest available figures from the Department for Digital, Culture, Media & Sport's *Taking Part* survey show that just over a quarter (28 per cent) of Black British respondents visited museums in 2019/20, which is significantly fewer than white, mixed and Asian British respondents, ranging from 46 to 63 per cent (Department for Digital, Culture, Media & Sport 2020). These figures are well in line with previous surveys and are also broadly comparable to similar research in North America (Farrell 2010), Australia (Museums & Galleries of NSW 2015) and elsewhere in Europe (EUNAMUS 2013).

Despite the genuine efforts of many museum outreach, engagement and education workers, these figures continue to prove extremely difficult to change. This suggests that the problem is systemic and is about the ways in which different communities feel represented or not by museums and cultural institutions more generally.

This brings us back to Tuck and Yang's (2012) notion that decolonisation is not a metaphor but involves concrete steps to address the damage done by colonialism. In other words, understanding the colonial legacies of objects and collections is not the same as taking practical measures to redress colonial harm. Procter argues that museums can never be free from violence as 'it is in their nature, the origins of their collections' and that they 'cannot be decolonised without being completely re-invented' (Procter 2020,

261). Having said that, understanding their colonial legacies and the origins and extent of this violence is an important first step towards more practical and proactive moves to address these harms. The frequently hidden colonial connections underlying a vast number of Western museums and the items in their collections need to be made explicit before steps to address the violence they were part of can be even considered. Only then can the process of reinvention begin. An example of what this process of reinvention may look like is expressed by Azoulay (2019) through the term ‘potential history’. She explains that “‘potential history’ is a form of being with others, both living and dead, across time, against the separation of the past from the present, colonized peoples from their worlds and possessions, and history from politics’. It is not ‘the account of radical thinking, of explicit ideological struggles against imperialism, but a rejection of imperialism’s conceptual apparatus altogether’ (Azoulay 2019, 43). In short, it is about the potential of reimagining a different world in which imperialist and colonialist violence never took place and then considering what practical steps – including restitution, reparations and return – need to be taken to make this alternative future a reality. Clearly, unthinking several centuries of colonial violence and white European privilege is not an easy task, but trying to follow Azoulay’s lead in creating potential histories for the holdings of Western museums and collections might represent a start. Those of us lucky enough to be able to work with these materials have a choice of viewing these items through the lens of past colonial violence as a fait accompli, or that of a future shared by everyone on an equal footing. Assuming we are ready to rise to the challenge of a shared and more diverse approach, it requires change from the inside out – that is, the way the histories of collections are understood and portrayed – and outside in, through actively encouraging a greater diversity of voices from across the community to participate in making sense of what these items mean to them. We should bear this choice in mind as we make our way through the remaining chapters of this book, first by looking very closely at individual objects (Part II) and then by thinking about how they may be used to communicate with wider audiences (Part III). Before doing so, the current chapter will conclude with an exercise.

COLONIAL LEGACIES IN OBJECTS

Given the challenging nature of the topic, it is not easy to find an appropriate exercise to undertake. However, a really useful activity any learner can safely engage in is to broadly follow the three examples above and try to uncover the colonial narrative behind almost any item in a contemporary Western museum or collection, especially one that was acquired between the eighteenth and twentieth centuries (Box 3.1).

BOX 3.1 EXERCISE: UNCOVER THE COLONIAL LINKS OF A MUSEUM OR COLLECTION ITEM

This exercise is a response to and reversal of Box 2.4 in Chapter 2, by making explicit the colonial connections underlying (almost) any given museum or collection item.

1. Select an item, name it, briefly describe it and define its broad context (that is, the type of museum and/or collection it is part of).
2. Based on the three examples we explored in this chapter, try to identify whether and how the item can be linked to colonialism or other difficult histories. Depending on the item and collection, these might be more or less apparent.
3. Start by asking some of the questions that Procter and Ashby have introduced.
 - a. If it is an artwork ask:
 - What is missing?
 - Whose eyes are we viewing this story through?
 - How has this history been massaged and clipped into a narrative?
 - Who is represented (that is, present/depicted on the work)?
 - b. If it is a natural history, other scientific specimen or cultural artefact, can you do one of the following?



- Focus on a place: for example, its place of origin or another important location in its history
 - Focus on a person: do we have any knowledge of key people involved in the item's collection?
 - Focus on an event: is there a particular event or time this item can be connected with?
 - Start with a taxon, object type or material: what can any of these reveal about the colonial processes the item may have been entangled in?
4. Having done at least one of the above, now try to weave this into the wider colonial processes prevalent at key moments and locations in the item's history. This comes very close to the life cycle approach that we will explore further in [Chapters 5 and 6](#). So feel free to return to this exercise and expand on your item's colonial narrative once you have worked through those chapters.

FURTHER READING AND RESOURCES

Decolonisation and restitution

Decolonisation of museums and their collections has become an important discussion point since around the 2010s, frequently focusing on repatriation and restitution requests of objects and remains taken from former colonies. Consequently, there is a growing body of literature focusing on this topic, starting with Eve Tuck and K. Wayne Yang's (2012) seminal treatment of this topic from a North American perspective. Alice Procter (2020) provides a good contextual discussion of the broader colonial legacy of objects and artworks in English museums, while Dan Hicks (2020) focuses specifically on the controversy surrounding the Benin Bronzes and the question of their restitution to West Africa. Ariella Azoulay (2019) offers a vision of the future via alternative histories beyond the scars of colonial violence.

Colonialism, nature and extinctions

The role of natural history collections in the colonial story has only recently been acknowledged, with both Jack Ashby and Rebecca Machin's (2021) and Subhadra Das and Miranda Lowe's (2018) articles providing useful discussions of some of the key issues and implications. There are also several blogs and web resources on this topic, perhaps most notably by the Natural Sciences Collections Association (NatSCA) and a blog on the Natural History Museum website (see web resources below).

Archaeology, racism and eugenics

Debbie Challis's (2013) book provides an excellent introduction to how archaeological research has been directly informed by and in turn contributed to race science. Raphael Greenberg and Yannis Hamilakis (2022) explore questions of nation, race and colonialism in relation to the archaeological heritage of Greece and Israel. Subhadra Das (2023) offers a much broader discussion of the impact of eugenics on Western scientific thinking, drawing frequently on museums and their collections.

Decolonising fine art

Although many contemporary artists – especially from the Global South – have extensively focused on the legacy of colonialism in their work, the need to decolonise the world of fine art both in collections and the commercial art market has only been recently recognised. The *Routledge Companion* on this topic, edited by Manisha Sharma and Amanda Alexander (2023), provides one of the first explicit and most comprehensive treatments of this topic in the literature. Linking this back to practising and future artists, the University of the Arts London (UAL) has established a Decolonising Arts Institute (see web resources below).

Web resources

NatSCA – decolonising natural science collections:

<https://natsca.org/natsca-decolonising>

Natural History Museum – Are natural history museums inherently racist?

<https://www.nhm.ac.uk/discover/are-natural-history-museums-inherently-racist.html>

UAL Decolonising Arts Institute:

<https://www.arts.ac.uk/ual-decolonising-arts-institute>

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PART II

UNDERSTANDING AND ANALYSING OBJECTS AND MATERIALS

Having considered some of the wider contexts in terms of the theoretical and pedagogical frameworks for OBL and the historical implications of collecting heritage objects, especially from a European standpoint, the second part of the book will review a range of different perspectives on objects and material culture. These are intended to help learners structure their object research and develop a toolkit for exploring objects at close range using a variety of approaches. These approaches draw inspiration from a selection of disciplines, including anthropology, archaeology, art history and material science as well as several already highly interdisciplinary fields, such as creative health, digital humanities, library/information studies and museum studies.

The approaches presented will commence (in [Chapter 4](#)) by exploring the materials that objects consist of, from both a scientific and a more embodied (making) perspective, and highlight how a close engagement with materials and their properties is an essential starting point for any object researcher. This will be followed (in [Chapter 5](#)) by introducing how objects are made and used, through reviewing a number of key models for understanding and characterising the processes involved in making and using an object. Then, [Chapter 6](#) will consider objects, specimens and items from a social life point of view, aiming to create a biographical understanding of the lives of things and the spheres of relations they may participate in over their lifetime. Lastly, [Chapter 7](#) will engage with the emotional connection that people frequently make with material objects by reviewing the (bio)psychosocial aspects of material culture and how objects can affect human health and wellbeing.

Each of the chapters in this section will introduce and define a range of essential terms in each respective field. The chapters will contain a range of exercises and will be illustrated with examples, drawing largely on UCLs museums and collections.

4

Materials and material culture

The key features of this chapter are:

- the relationship between materials, material culture (including objects) and people;
- a range of different approaches to studying and understanding materials;
- key discussion points surrounding objects and materials.

After reading this chapter, readers should be able to:

- reflect on the properties of different materials and the role they play in making objects what they are and giving them their properties;
- gain an overview of a range of approaches (including scientific and more embodied ones) to understanding and analysing materials;
- refine their abilities for describing objects and assessing their properties based on basic visual and physical analysis methods.

FROM MATERIALS TO MATERIAL CULTURE

In [Chapter 1](#) we considered a simple and brief definition of material culture (see [Box 1.1](#)), as engagement with material culture lies at the heart of object-based learning (OBL). This chapter will take us a step further back and begin by considering materials as the foundation for material culture, questioning what they are and what their role is in making up the physical world we inhabit.

Also in [Chapter 1](#), we saw that the word ‘object’ in the context of OBL is an umbrella term that can refer to a multitude of items, such as artefacts, artworks or specimens. However, all of these ‘things’ have one common denominator: they all consist of materials. Therefore, the first question we must ask is what materials actually are or what we mean when we refer to material(s) ([Box 4.1](#)).

BOX 4.1 WHAT ARE MATERIALS?

If you look up the word ‘material’ in a dictionary, you are likely to find a definition such as this one from the *Oxford English Dictionary*: ‘The matter from which a thing is or can be made’ (OED 2025).

In order to fully understand this definition, we need to know what is meant by matter. The *Oxford English Dictionary* defines matter as a ‘physical substance in general, as distinct from mind and spirit’ and in physics, ‘that which occupies space and possesses rest mass, especially as distinct from energy’ (OED 2024a). To express this more simply, matter refers to anything that is physically tangible and occupies a certain space. By extension, this mostly relates to things that present themselves as solid under normal conditions (usually room temperature and atmospheric pressure). However, clearly in certain environments snow and ice are perfectly good materials, for building and sculpting, for example, although under ‘normal conditions’ they would turn to liquid and thus be useless for these purposes.

But frozen water aside, material objects tend to consist of tangible, solid substances that can be touched and seen.

Material properties

In simple terms, it is their tangible and physical nature that makes objects, artworks or specimens available and accessible to OBL. But it is the properties of the materials that such objects consist of that gives each item its unique characteristics. On the most basic level, these can be readily apparent physical qualities such as hardness (hard or soft), texture (for example, smooth or rough) or weight (light or heavy), as well as their visual appearance (such as shape, colour, translucency). Frequently, these characteristics are an ideal starting point for any engagement with such objects, especially when we are confronted with an unfamiliar item for the first time. When encountering familiar objects, we often tend to simply overlook their material properties. Take for example a coffee or teacup. When we make a hot beverage in them and then proceed to drink it, we do not usually reflect on what it is about the properties of clay (both pre- and post-firing), glass, plastic, cardboard or Styrofoam that makes them suited to be shaped into a vessel and in turn to hold hot liquids (Figure 4.1). Neither do we tend to consider the role of the glaze that covers the clay (generally for waterproofing the clay's porous texture, but also for decorative purposes) on most ceramic cups and mugs, or the rippled texture on the outside of many cardboard cups. In other words, we just take the fact that familiar objects do what they are meant to do for granted without spending too much time reflecting on the reasons behind this. We are only forced to engage with this if they fail in their mission due to a crack, tear or break, for example.

If we are confronted with a 'mystery' object, that is, something we have never seen before and whose purpose is unknown to us, most of us respond in the same way: by asking, 'What is it?' However, if the thing before us is truly unfamiliar, this question on its own will rarely produce satisfactory answers, unless of course there is a person present who happens to be more familiar with the item than we are and we can thus learn about it from them (see Socially distributed learning in Chapter 1). But otherwise, a usually more effective way of approaching an unfamiliar item is by asking a number of more 'basic' and fundamental questions like:

- What is it made of?
- How was it made, or how did it develop into its current shape?
- How was it or is it being used?



Figure 4.1 A selection of coffee cups made from different materials (top left to bottom right: wood, clay, glass, paper, plastic, Styrofoam).

In this chapter we will deal with the first of these questions concerning what the item is made of or (especially for natural ‘objects’) what material(s) it consists of. [Chapters 5](#) and [6](#) will then focus on the second and third questions, concerning the production and use of objects.

THE STUFF THINGS ARE MADE OF

Have you ever reflected on why we tend to refer to certain materials as ‘raw’, which literally means uncooked? Identifying the (raw) material(s) of an object is generally a fundamental first step in learning more about it. If the object appears to comprise multiple materials, an even more basic way to start is by asking how many different materials it consists of. Given our prior experiences of the world, most of us will probably be able to readily identify quite a broad range of materials, at least at a general level, such as whether an item is made of stone, wood, metal, glass, bone, clay/ceramic

or plastic. But if we are not quite sure, we may wish to take a further step back and begin by characterising the qualities of the material(s): Is it light or heavy? Is it hard or soft? Is it cold to the touch or warm? Is it rough or smooth in texture? Is it bright or dark, matt or shiny, opaque or translucent? Depending on the type of object we are dealing with, these questions can also extend to employing other senses beyond sight and touch: does it have a distinct smell? Does it make a sound when being tapped or moved? For example, does it sound solid or hollow?

Like in the second exercise in [Chapter 2 \(Box 2.6\)](#), asking ourselves these questions about how hard or soft, light or heavy, rough or smooth an object is and then proceeding to conjecturing (if we can) what material it is made from can open up many additional avenues for further investigation. In fact, we may have gone through this very simple analytical ‘checklist’ anyway (though perhaps very quickly and without noticing) in making our determination about whether something is made of wood or metal, stone or ceramic, bone or plastic. This essential step in object analysis is squarely based on experiential and empirical parameters by bringing together our impressions of an object in the present with our past experiences of similar (or different) objects and materials, thus allowing us to draw comparisons.

Based on these principles, there are a range of ever more detailed ways in which we can distinguish different materials. Ideally, we would like to be as specific as possible; rather than just being able to say that something is made of stone, metal or wood, for example, it would be best if we could say with certainty that we are dealing with quartzite, bronze or oakwood. But we can also divide materials into two much more fundamental categories, that is, whether they are organic and inorganic. In simple terms, anything that is (or has been) grown tends to be organic – like wood, skin, bone and fibre – while anything that does not directly originate from a living organism – such as stone, clay, sand or metal – is inorganic. It gets a little more complicated when we consider things that have once been living organisms but have since been fossilised, petrified or carbonated, such as limestone, peat, coal, fossilised plant and animal remains. By the same token, charred or calcified bone or plant remains are, strictly

speaking, inorganic, although they may retain the shape and some of the properties of the original organic material they once were. It is also important to point out that this distinction only really works for materials that have already been in use since the pre-industrial era. This is because with the development of petro- and polymer chemistry, based on mineral oil and the production of industrial plastics, the boundary between organic and inorganic compounds has become significantly more blurred and complex. To keep things relatively simple, we will not engage further with synthetic materials for now and continue the discussion with pre-industrial processes using naturally occurring (raw) materials.

One of the most important implications of the distinction between organic and inorganic materials links to their preservation. Organic materials are usually subject to decay – sometimes quite rapidly – while inorganic materials tend to preserve extremely well in normal conditions (see below). This is important for people studying materials, as it can help with understanding their history. For example, if a wooden object of ancient origin has been preserved, this is likely to have been due to ‘extraordinary’ circumstances, such as very cold temperatures, very wet or other anaerobic (that is, oxygen free) conditions, or very dry and stable conditions – like a cave or tomb in a desert environment. But the distinction between organic and inorganic materials is also relevant to people working with materials in manufacturing objects (makers, craftspeople, artists and artisans). If working with inorganic materials, usually no further steps are needed to protect or preserve the object, such as a stone sculpture, a fired clay pot or a glass vase. Organic materials, on the other hand, usually require some additional (and sometimes ongoing) measures to protect them from decay and preserve them for as long as possible, such as painting or varnishing a wooden object to protect it against rot, woodworm or moisture. Although, admittedly, there are some inorganic materials, such as certain metals (iron, for example) that are also subject to decay if they are not adequately protected. Finally, this distinction is also fundamental to those people in charge of conserving objects to make them survive for as long as possible, and we will return to the work of conservators later in this chapter.

A basic understanding of different materials – starting out from the very broad categories of organic and inorganic materials – is

fundamental to anyone studying and working with objects. However, depending on a person's intention in terms of what they wish to do with an object, as well as their skillset and the technologies available, there are a number of different ways of understanding and characterising objects and materials. Here, we will focus in particular on two partially contrasting but also overlapping approaches. The first is that of a (material) scientist, grounded in a scientific – such as physical, chemical or biological – understanding of the world, and the second is that of a maker, focusing more on an embodied reading of their environment and the materials they encounter within it.

The scientific approach

It is probably fair to say that in the post-industrial Western world, the scientific approach has become the dominant way of engaging with our surroundings. For example, we tend to refer to relatively precise units of measurement (be they metric or imperial) when we discuss the weather (especially temperatures), durations (measuring time in minutes or even seconds), travel (such as distances) and even shopping, with products being sold to the nearest gram or millilitre. Therefore, it is no wonder that in materials research too the scientific approach has gained the upper hand.

From a scientific perspective, material properties must be measurable and replicable in experiments, given set conditions. For example, water should be liquid at room temperature and normal atmospheric pressure, while it becomes solid if cooled below 0°C and gaseous (turning into steam/vapour) when heated to above 100°C. There are many other measures used to characterise materials scientifically, such as pH value, (Mohs) hardness scale, density, magnetism or electric conductivity, to name but a few.

These properties can be vital for more advanced approaches to object analysis, and material science has branched into lots of different directions, including engineering, design and synthesis; understanding the functionality of materials; conservation science; and studying the environmental impact of materials, either through their decay (such as heavy metals) or because they fail to do so (such as many plastics).

From an analytical perspective, there are many destructive and non-destructive approaches that can be used to study and analyse

objects and materials. Which of these can be employed depends to some degree on whether we are dealing with organic or inorganic materials. For example, some of the most well-known destructive approaches, such as radiocarbon (or ^{14}C) dating, dendrochronology (tree-ring dating) and DNA sequencing, generally only work for organic materials. In contrast, thermoluminescence dating works with pottery (which is inorganic) and is used to determine the time period that has elapsed since the pot was fired. However, as an introductory text to OBL, this book will focus exclusively on simple (and non-destructive) observational techniques that do not require anything more advanced than a measuring tape, a good light source and perhaps a magnifying glass, but most importantly our own sense of touch, sight, smell and hearing (and occasionally taste).

Using essentially scientific principles, the early nineteenth-century Danish archaeologist Christian Jürgensen Thomsen (1788–1865) developed a distinction between different archaeological objects based on the materials they were made from. This approach has become known as the Three Age System, in which Thomsen proposed a chronological succession of a Stone, Bronze and Iron Age (Trigger 2006). When combining this with another prevalent theory of the time – that of stratigraphy (which archaeologists borrowed from geology) – it meant that not only the object made from this material itself could be ‘dated’ to a certain time period but also any other objects, made from other materials but found in association with it, could equally be ascribed to the same period. In turn, this approach provided the foundation for seriation and typology, which we will return to in the [next chapter](#) when considering the way different objects are manufactured.

Understanding the material composition of objects, the properties of each constituent material and especially how they (are likely to) change over time is also crucial for the work of conservators who aim to keep objects in their current state for as long as possible. In the past, conservators tended to take a rather ‘active’ role in trying to ‘restore’ objects to their ‘former glory’, which sometimes resulted in ‘over conservation’. This is a nice way of saying that they damaged the objects, for example by applying glue to refit broken pots or removing stains from objects that we now know may contain vital clues about their histories. In contrast to this, the most common

current approach to conservation is more ‘passive’ by focusing on preventing (and sometimes even reversing) processes of decay and decomposition without trying to substantially change the object and its constituent materials.

What connects all of the above approaches is that they are all built on the principle that materials are essentially static and have a set list of predictable properties. However, as alluded to above, there is an alternative perspective to perceiving materials, which is the way in which a maker (craftsperson or artisan) approaches materials.

The maker’s approach

While for the scientist the properties of materials are static (consistent and predictable) and thus materials themselves are inert, for the maker materials and their properties are active and fluid. In other words, the properties of a material are determined by how it responds when we do certain things to it. For example, what happens when we cut it with a knife or saw, hit it with a hammer, heat it or boil it in water and so forth? The objective of this is usually to bring about a transformation, such as by heating a material until it melts, at which point we can create a new shape from it, by pouring it into a mould, for example. Therefore, in contrast to the scientific approach, where the properties of materials are constant and predictable, for the maker materials are alive and always in transformation. Or as Tim Ingold puts it, materials are always on the way to becoming something else (Ingold 2007).

This difference tells us that the scientific and maker’s approaches to materials operate on different epistemological levels – meaning that they are based on different ways of looking at the world – which I will illustrate with a brief example (Box 4.2).

BOX 4.2 EXERCISE: CAN YOU GUESS THE MATERIAL?

Below you will see a short list of observations of a material, both from a scientific and from a maker’s perspective. I invite you to read them line by line and guess what the material characterised here is. See how many clues you require to get the answer.



First, the scientific perspective:

1. It is solid under standard conditions.
2. Is non-toxic and has no known biological role.
3. Its atomic mass is 196.967, its density 19.3 g/cm³ and its melting point is 1,064.18°C.
4. Its atomic number is 79, meaning that it is the 79th element in the periodic table of elements.

Have you guessed it yet?

No? Well, see how many clues from the maker's perspective you require to guess it:

1. It is yellow and gleaming.
2. It shines ever brighter under water.
3. It is relatively soft and can be hammered into thin leaf.
4. It does not easily corrode or react with other substances and is resistant to most acids.

Got it now?

Finally, its periodic symbol is Au from Aurum, which is the Latin for ...

Yes, as you have surely deduced by now, the material in question is gold.

There is a reason why I chose gold as the material for the above exercise. As you can see, from a scientific perspective, the properties of gold, like pretty much any other material, are constant and measurable. The material is essentially dead and static, and science tends to further define the conditions under which the properties of a material should be measured and reported – the so-called normal conditions (that is, 20°C and 1 bar atmospheric pressure). In contrast, from a maker's perspective its properties are about how it relates to human actions, first just by looking at it, touching and smelling it, and perhaps even biting or tasting it, but then also by heating, hammering or trying to dissolve it (for example, in water, alcohol or acid). Hence

for the maker, materials are alive; they are about the transformation of substances from one state – for example, a gold nugget – to another, like a coin or the thin layers of gold leaf used to cover statues.

Based on this difference, Tim Ingold goes on to compare the maker's approach to that of an alchemist. Arguably, we can trace the origins of both the maker's and scientific approach back to the workshops of medieval and renaissance alchemists who closely engaged with many types of materials. But rather than seeking to measure, understand and explain them in the first instance – like modern scientists do – alchemists generally had the objective of transforming materials into something else and/or creating something new with them, most famously, of course, gold. However, as part of the process of working with materials in this way – by focusing on their transformations – alchemists would frequently have made a range of interesting discoveries, which in turn led to finding many new ways of working with materials.

The epistemological differences notwithstanding, it is important to emphasise that while they come from different starting points, rather than being necessarily in opposition to one another, the maker's and scientific perspectives are highly complementary. If we are interested in learning as much as possible about an object, combining the two perspectives can allow us to make accurate and detailed observations while also gaining an embodied understanding of materials.

To practise this, we will undertake a short exercise (Box 4.3), followed by a practical example of a material commonly encountered in the Petrie Museum but almost never in any of the other UCL museums (Box 4.4).

BOX 4.3 EXERCISE: ANALYSING MATERIALS

Pick an object, artefact, artwork, item or specimen of your choice (unless you have already been allocated one). Ideally, you should be able to touch or at least get very close to this item.

Identify what the object is (what it is called). Or if you do not know, give it a descriptive name and provide a very brief physical description.



Now identify the main material(s) the object is made from as precisely as you can with nothing but your senses and prior experiences as a reference tool. For example, you may only be able to say the object is made of metal, or you might recognise this metal to be stainless steel, iron or copper. If there are a number of different materials clearly recognisable, identify and name them all. If there is a material that you really have no idea what it could be, describe it briefly based on its appearance and physical properties (colour, shape, texture, weight) and compare it to similar materials that you are familiar with.

Assuming you have managed to identify at least one material, write a short paragraph (200–300 words) about this material and its properties, or the materials and their properties if there are more than one. Try to include a number of scientific and ‘non-scientific’ properties, that is, some properties that are measurable and others that relate to how the material behaves in response to human action. Finally, write a brief description of the natural, cultural and social contexts and meanings of this material/these materials.

See also [Box 4.4](#) for an example from UCL’s collections.

BOX 4.4 EXAMPLE MATERIAL: A FAIENCE SHABTI FROM ANCIENT EGYPT

The object presented here – UC39847 from the Petrie Museum of Egyptian and Sudanese Archaeology ([Figure 4.2](#)) – is a so-called shabti, which is one of the most ubiquitous (that is, frequently encountered) grave goods from ancient Egypt and Sudan. They can be found in tombs dating from the Middle Kingdom (c. 2050–1750 BCE) right through to the Late Period (c. 664–332 BCE), meaning that they were made and used for over 1,500 years. While the point of this exercise is to focus on the material, it is important to briefly explain the role shabtis played in ancient Egypt. They are relatively small figures – although they can vary in size from less than 5 to over 30 centimetres – often inscribed with a special formula and were deposited in tombs of



wealthy Egyptians with the aim of carrying out 'heavy manual tasks on behalf of a person in the afterlife' (Digital Egypt n.d.).

The example displayed here (UC39847) dates from the Nineteenth Dynasty (1292 to 1189 BCE), is approximately 11.5cm tall and, as can be seen from the photograph, is made from a blue-grey shiny material, with additional details (including hieroglyphs) painted in black (Figure 4.2).



Figure 4.2 Faience shabti from the Nineteenth Dynasty of ancient Egypt (LDUCE-UC39847). Courtesy of the Petrie Museum of Egyptian and Sudanese Archaeology, UCL.



I have chosen faience as a material as it is perhaps less familiar to most readers and therefore makes for an interesting example for conducting some simple material analysis. Given its bright and shiny appearance, faience could be mistaken for a semi-precious stone. In fact, it may have been chosen to emulate stones such as turquoise, which we know played an important role in ancient Egypt. However, if you have the opportunity to handle and lift it, you would be struck by the fact that it feels much lighter than you would expect stone to feel. Close inspection will quickly reveal the fact that it has evidently been shaped in a mould rather than being carved (by hand) from a larger piece. Therefore, it seems to behave more like clay than stone, yet with its surface appearing strikingly shiny, almost glassy. The reason for this is that faience is in fact a type of glaze, which is a mixture of sand and other materials heated to high temperature to make them melt together. In addition to quartz sand (which is also the main material for making glass), these materials are generally alkaline salts (such as natron), lime and a colourant, usually a metal oxide, such as copper for tones of blue and green (Riccardelli 2017).

Once these materials are mixed together and heated to approximately 900°C, they become a new material known as faience. The term 'faience' has been borrowed by Egyptologists and was originally coined for the brightly glazed pottery originating from Faenza in northern Italy, but is now also the widely agreed term for this ancient Egyptian material. There are a number of important aspects about faience. First, as already hinted at, it simulates some highly desirable semi-precious stones, and the colour blue more generally in ancient Egypt was linked to fertility, rebirth and the power of the sun. Second, when the raw materials are mixed with water, they turn into a paste that can be readily shaped and moulded and that holds its form until it solidifies when fired. This means that 'wet' faience can be pressed into a mould that allows objects to be mass produced. Given the substantial demand for shabtis in ancient Egypt, with wealthy people frequently having several hundred included in their tomb, the possibility of mass producing them, but also of being able to customise the details by painting on different names and spells (in hieroglyphs) before firing, made faience an ideal material for manufacturing shabtis. But it was also used widely for a range of other objects, such as vessels, sculptures, jewellery and other ritual items.

Making objects from materials requires engaging with them in similar ways to the approach of an alchemist. As we have seen above, modern science also has its roots in this method but started to turn its back on it since the Enlightenment of the seventeenth and eighteenth centuries. It is no coincidence that the emergence of modern science during the Enlightenment coincides with the period when the first museums and curated collections (in the modern sense) were developed as well as with the beginnings of the age of exploration and colonisation (see [Chapters 2 and 3](#)).

The period of the Enlightenment is also the time when the much-debated dualisms, such as between mind and body, culture and nature, and theory and practice, were first formulated. In a similar way, we could argue that there is an object–material dualism. The discussion so far has relied on an implicit understanding that we all recognise objects and materials when we see them and are able to distinguish between them. However, is this process necessarily as intuitive and straightforward as it would appear?

THE OBJECT–MATERIAL CONTINUUM

Is it easy to tell objects from materials?

Please take a look at [Figure 4.3a](#) and decide whether what is depicted is a material or an object. When holding up a brick and asking this question in class, the most common response is that it is an object. Is this also what you were thinking? If so, you are of course correct, as a brick, in particular when looking at a single one held in the hand or in front of you on a table, could certainly be described as an object, based on the definitions we reviewed in [Chapter 1](#); that is, as a material thing that can be seen and touched. However, if you look at a building – constructed from a large quantity of very similar bricks to the one in the image – the individual object virtually ‘disappears’ (especially when the building is finished with render) and takes on the role of a (building) material. Remember the above definition of materials as ‘the matter from which a thing is or can be made’. Therefore, if you thought that the brick is a material, you were also correct. One could say that buildings are woven with bricks. Speaking of weaving, what about a ball of wool ([Figure 4.3b](#)) – is



Figure 4.3a A brick (this particular object was found in the intertidal zone of the River Thames near London's Royal Docks) (photograph: V. Lukić).



Figure 4.3b A ball of wool (photograph: T. Kador).

it a material or an object? Again, the ball could certainly be taken as an object, but if unfurled, woven into a carpet or knitted into a scarf or jumper the individual thread of wool – while not actually physically or chemically altered – becomes almost invisible, as it has been transformed into something else. The point here is that there is no essential or straightforward distinction or separation between materials on the one hand and objects on the other; they can be, and often are, the same thing. It is the context and, crucially, their history that determines whether we perceive them as one or the other. We could take this argument one step further and suggest that there are no objects at all in the world, but that all the things we perceive and refer to as objects are in fact materials in (different stages of) transformation (Ingold 2013). What we call an object is simply one particular point on their (that is, the materials') continuous journey of change. For example, for a brick, this involves being formed as loam by geological processes, being dug up and purified as clay, being pressed into a mould and fired in a kiln and then used in the construction of a wall or building. But the journey does not end there, as no wall or building lasts forever and eventually the structure – whether by active demolition, natural disaster or simply the slow grinding away of time – will give up its constituents (including individual bricks) again and they will continue their cycle of transformation. Perhaps some will end up in a stream, river or the sea, where the ceaseless action of the currents or tides will serve to grind them down against other bricks or stones until they turn to brick dust that mixes with the sand and other sediment on the bottom of the river or sea. While perhaps not very likely, it is not beyond the bounds of possibility that one day the sediment is dredged up from the river or seabed, dried and used again as a building material, although it is of course not possible to make another brick from it, as the clay has been irrevocably transformed as part of the firing.

You may have noted that some of the processes along the journey of materials – like from brick to wall and back to brick, or from thread to jumper and back to thread – are reversible, while others are not – like from fresh clay to fired brick or from newly shorn wool to spun yarn. But either way, the cycle of transformation of these materials carries on regardless.

The spectre of there being no objects in the world raises the serious question of what this means for museums, which are packed full with things that we call objects, and therefore, by extension, what this means for OBL? This is where the art and science of conservation comes in. As already discussed, the job of a conservator is to arrest the process of transformation, or put differently, to work against time and keep the object as pristine as possible in the state within which it was collected. We will return to the question of arresting an object's development in the [next chapter](#). However, conservators cannot compete with the inevitable actions of time; they can at most seek to delay these natural processes of decay and transformation. In the end, even being an object in a museum or collection will have been only one point along the cycle of transformation of the materials concerned.

Having said all the above, even if we accept the argument that there are no objects, just materials in transformation, describing things as objects, specimens and artefacts, based on the way they currently present themselves to us, still holds value. The reason for this is that it allows us to discuss them in the way we perceive them, as long as we bear their impermanence in mind while doing so. In this sense, the term 'object' (and all the other terms we have already encountered that are used for items in collections [[Chapter 1](#), [Box 1.2](#)]) should be approached as a heuristic. That is, a concept created as a mental tool to make discussing a topic possible.

MATERIAL PROPERTIES AND MATERIALITY

Let us return to the task of describing an object before us. Perhaps we have already determined that it is made of bone, but also that it has clearly been shaped into its current form by human actions rather than natural processes alone. This is interesting, as in the contemporary West, we do not tend to readily use animal (including human) bone as a raw material to make objects with. To illustrate this, how many bone objects can you name in your home? Or how many things that you handle on a regular basis – and that are not part of food items such as chicken legs or spare ribs – are made

of bone? If you read this in Australasia, Europe or North America, I suspect the answer is not many, if any at all. Thus, identifying that an object is made of bone already tells us that it either has not been made recently or originates from a part of the world where bone is used more commonly as a raw material. In the past, bones were readily used for making buttons, combs, spoons, handles for knives and doors and many other items, as well as raw material for soap and glue.

Based on this discovery (of the material and its context), we can already infer a lot about the object and its history, including how the size of the bone object also provides an indication of the type of animal the bone may have come from (Figure 4.4). This is something we will revisit in the next two chapters when considering the manufacturing sequence and the life cycle of things, respectively. For this chapter focusing on materials, there remains one key point to



Figure 4.4 A bone comb from Naqada, ancient Egypt, dating c. 3500–3200 BCE (LDUCE-UC5371). Courtesy of the Petrie Museum of Egyptian and Sudanese Archaeology, UCL.

be discussed, relating to a term frequently employed in the literature not just on material culture (see [Chapter 1, Box 1.1](#)) but in fields far and wide, ranging among others from accountancy and finance (Miyazaki 2005) to art (Lange-Berndt 2015), psychology (Malafouris 2019), sociology (McDonnell 2023) and film studies (Watkins 2013; Lameris and Flueckiger 2019). This is the concept of materiality.

Materiality can be defined as ‘the quality of being composed of matter; material existence; solidity’ or ‘material or physical aspect or character; outward appearance or externality’. In other words, the term covers all ‘material things’ (OED 2024). But if we are interested in the study of objects and the materials they are made from, how can this concept of materiality help us further (Miller 2005)?

Once again, we encounter the writings of Tim Ingold here, who in a seminal paper on materials and materiality (Ingold 2007) lists some of the contexts within which materiality has been discussed, such as the ones already listed above. Upon interrogating what writers actually mean when referring to materiality in their given subject, it becomes clear that at the heart of the use of the term materiality stands the concept of physicality – the tactile nature and ‘thingness’ of the material world and of individual things (objects) that form part of it. However, if we reflect on the term a little, it will become apparent that it is not particularly useful for understanding anything about the materials in question and actually expresses very little about objects’ physical attributes. Moreover, there is also the problem that some of the objects and materials that have been ascribed a certain materiality are far from homogeneous. If we talk about the materiality (or the stoniness) of stone (Tilley with Bennett 2004), it makes a huge difference whether, for example, we refer to sandstone, which is soft, brittle and can be easily scratched with our fingernails, or granite, which is extremely hard and durable. Their properties are all but the opposite of one another, yet they both are unquestionably types of stone. We could make a similar argument regarding the woodiness of wood – take box wood and mahogany as examples – or the ‘soiliness’ of soil, comparing sand with peat or clay. Therefore, whenever we read the term ‘materiality’, we should really ask ourselves, what is it in relation to the material(s) concerned that is most relevant here? Most of the time we may find that a more useful approach is to reflect on the actual properties of

the materials, whether they are light or heavy, soft or hard, rough or smooth, and engage in greater detail with their texture, appearance and other characteristics.

This, then, brings us back to the beginning of the chapter and the tasks of observing, analysing and reflecting on the properties of objects. These properties are at the centre of why an object appears in the form it currently does, regardless of whether this is due to natural processes – for example, why a skeleton is made of bone or a turtle carapace is made of keratin – or because of human manufacture – for example, why cutlery tends to be made of metal but usually of stainless steel or silver and never of tin or copper (Laughlin et al. 2011).

THE HISTORY OF MATERIALS

As the final items of this chapter, we will briefly consider what the properties of materials actually are and how they come about. Why is granite hard and durable but sandstone soft and brittle? To answer this question, we will return one more time to the writings of Tim Ingold, who suggests that the properties of materials are (the result of) their histories. This can be easily demonstrated with the above example. Granite is formed through igneous processes. This means that it crystallised after the combination of silica-rich magmas containing its three principal minerals – feldspar, quartz and mica (all with their individual properties) – at very high temperatures deep in the Earth's crust. Through this process of thermal transformation a new material emerges, granite (Figure 4.5a). Sandstone on the other hand is a sedimentary rock, which results from the deposition of layers of sand grains, on the seabed, a lake bed or riverbed or in a desert, which are subsequently fused together by minerals from (ground) water (Oxlade 2014), resulting in a much softer and more brittle rock (Figure 4.5b). In fact, the majority of sand grains found in sandstone are made of quartzite, which is also one of the key components of granite. Despite this similarity in one of their key building blocks and while both sandstone and granite are clearly types of stone, their very different (geological) histories of formation resulted in very different properties. We can apply similar reasoning to the difference



Figure 4.5 Materials, their properties and histories: granite (left) and sandstone (right). Courtesy of the UCL Geology Collection.

in the femur (the thigh bone) and antlers of a male red deer, or the bones and tusks of an elephant. They are all essentially (chemically) made of the same substance, though with very different results due to their different histories of formation. These histories continued once humans joined in with the materials' transformations, turning granite into durable kitchen worktops, sandstone into building blocks for highly ornate gothic cathedrals, using antlers as harpoons to hunt sea mammals, and elephant ivory for making piano keys or billiard balls in the eighteenth and nineteenth centuries.

SUMMARY AND CONCLUSION

In summary, what can we say about the materials that make up objects, artefacts, specimens and other things?

First, that characterising and ideally identifying an object's constituent material(s) is usually an excellent first step in finding out more information about it. This is especially true for unfamiliar things that present a genuine mystery to us, but it can also be useful for objects that we seem to know a good deal about, meaning we may overlook important clues provided by their material(s).

Second, there are different ways to characterise and understand materials, and ideally combining some of these will bring the most

insightful outcomes. On the one hand, there is the scientific way of approaching materials and their properties as static, predictable and measurable. On the other hand, there is the more hands-on and intimately engaged (embodied) perspective of the maker, which (similar to the alchemist) is concerned with how materials respond to forces that we bring to bear on them. But importantly, for the most insightful outcomes, it is best if we manage to combine the maker's and scientific perspectives in our explorations of an object. This involves maintaining a scientific understanding of material properties while drawing on the experiences of working (and experimenting) with them, as well as focusing on their propensity for transformation.

Finally, we must be cautious about employing the term materiality and be vigilant whenever we encounter it (in the literature). Instead of using this term as a shorthand for physical substances, it seems that a much more rewarding perspective would be to enquire about the properties of materials, which in turn are fundamentally tied up with their histories.

To conclude, a focus on materials, their histories and properties is essential for understanding any object, specimen or artefact. Having a greater appreciation of the histories and properties of the material(s) an object consists of will go a long way towards revealing other key aspects of its meaning and function.

FURTHER READING AND RESOURCES

Materials and material culture

Material culture has been a major topic of discussion in the anthropological literature since the 1980s and spread across other disciplines over the following decades. There is a specific journal, the *Journal of Material Culture*, dedicated to the topic (<https://journals.sagepub.com/home/mcu>) and there are several edited volumes bringing together key perspectives on the material culture studies. Perhaps most prominent among them are *The Oxford Handbook of Material Culture Studies* (2010), edited by Dan Hicks and Mary C. Beaudry and *The Material Culture Reader* (2002), edited by Victor Buchli. These volumes provide a great introduction to the field of material

culture studies, albeit from a perspective of over 10 or 20 years ago, respectively.

For an overview of the field of material science, in line with the scientific perspective of materials discussed in this chapter, Rolf Hummel's (2004) *Understanding Material Science* provides a useful starting point. From a maker's and especially artist's perspective, Tom Harrod's book on *Craft* (2018) from the *Whitechapel: Documents of Contemporary Art* series provides a range of useful introductions.

Materiality

There is a glut of publications on and built around the idea of materiality and I would not necessarily advise any reader to try to engage with the substantial range of this literature unless they have a specific research interest in this concept. However, for a general sense of how materiality has been framed, *The Materiality of Stone* (2004) by Christopher Tilley with Wayne Bennett usefully outlines an archaeological perspective and Daniel Miller (2005) provides an introduction with an anthropological lens. Tim Ingold's 'Materials against materiality' (2007), already discussed in this chapter, offers a powerful critique of the frequently uncritical use of the concept of materiality.

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5

Making, growing and the operational sequence

The key features of this chapter are:

- how artefacts are made and how natural objects ‘emerge’;
- the difference between natural objects (ecofacts) and artefacts;
- introducing the concept of the *chaîne opératoire* (operational sequence) to study the steps of the production process;
- reviewing a number of other models and approaches to objects manufacture, use and identification such as agency, use life/life history, typology and seriation.

After reading this chapter, readers should be able to:

- demonstrate an understanding of the differences and similarities between made and grown objects (that is, artefacts and ecofacts);
- discuss the role of the operational sequence in the production and use of objects;
- apply this model to a range of different materials, including stone, clay and metal.

FROM MATERIALS TO OBJECTS

In the [previous chapter](#), we considered what materials are, how to characterise them and the significance of their properties. It will not come as a surprise that these properties play a central role in the objects that can be made from a certain material (or group of materials). The relationship between material properties and objects will be the focus of the present chapter, where we will review how materials are transformed and how objects come about. These transformations can be applied to both processes that are due to human actions and those down to natural actions or, as is often the case, a combination of the two. Therefore, the first question that we need to address is one of definition. In previous chapters we have already defined what objects and materials are and the different types of words people routinely employ to discuss a variety of objects. While taking on board the suggestion that in fact our world is not made up of objects but of materials in continuous transformation (Ingold 2013), it may still be useful to reflect on the different items that we perceive as objects and the processes behind the material transformations that give rise to them. In this context, it might be helpful to reflect on two key groups of objects that are frequently approached rather differently: natural objects – sometimes referred to as ‘ecofacts’ – and objects made by humans, frequently called ‘artefacts’. As we have seen in [Chapter 1](#), in a museum and collection context, ecofacts are usually referred to as specimens. However, for the discussion here it might be useful to think of natural objects more widely, that is, beyond those that have been collected and curated to consider natural objects such as a branch or root of a tree, a stone, shed antler or bone as they are encountered within (or close to) their ‘natural’ habitat. So apart from this more natural context within which we may encounter ecofacts, what is the key difference between them and human-made artefacts?

Artefacts versus ecofacts

Natural objects, like a stone or a branch from a tree, tend to emerge or grow based on the interaction of scientific processes (for example, geological in respect of the stone and biological/genetic in relation to the tree) on the one hand and their environmental context on the other. For instance, a tree (in a forest) would ideally grow straight

upwards to maximise the amount of sunlight its leaves will be able to receive, thus enabling it to photosynthesise as efficiently as possible. However, if there is an obstacle in its way that impedes it from growing vertically, it will grow in another (for example, horizontal) direction. Once the impediment has been bypassed or overcome, it will once again aim to grow as tall as possible to maximise its exposure to the sun. Thus, the shape of its trunk and branches are a product of this interaction of the biological processes of what the tree does (grow, photosynthesise, produce leaves and fruit, and so on) and the environment (another tree, a building, a fence, a road or path in its way [see [Figure 5.1](#)]). In a way, the shape a tree takes relates to its own history of growth (Gooley 2023).

But what determines the shape of an artefact manufactured by a person? Anthropologist Tim Ingold, whom we have already encountered in the [previous chapter](#), writes about this in relation to one of the oldest and most ubiquitous known artefacts in the world; the (lower) Palaeolithic (or Acheulean) hand axe ([Figure 5.2](#)). What



Figure 5.1 A tree that has grown to avoid an obstacle (photograph: T. Kador).



Figure 5.2 Acheulean hand axe found on a hill-top plateau 9 miles NNW of Naqada, Egypt (LDUCE-UC13577). Courtesy of the Petrie Museum of Egyptian and Sudanese Archaeology, UCL.

gives a hand axe – frequently made from flint, a very hard and siliceous stone – its distinct teardrop shape? You may say that this is of course the actions of its maker, the steps a person, perhaps some 500,000 years ago (thus strictly speaking we should refer to them as hominins rather than humans), took to manufacture this shape out of a nodule (a large lump) of flint. This is clearly correct, in that the maker’s actions were instrumental in shaping the object, as without them the nodule-like flint (Figure 5.3) would never have ended up in the shape of a hand axe. But how did the maker go about this process? A very common answer to this question is that they had a ‘mental template’, a shape or design in their head (or their ‘mind’s eye’) that they set out to realise in stone. Tim Ingold terms this perspective, related to a mental template ‘hylomorphic’, or making through thinking (Ingold 2013, 37–38), but immediately goes on to challenge it. Instead, he suggests – as any artist or craftsperson

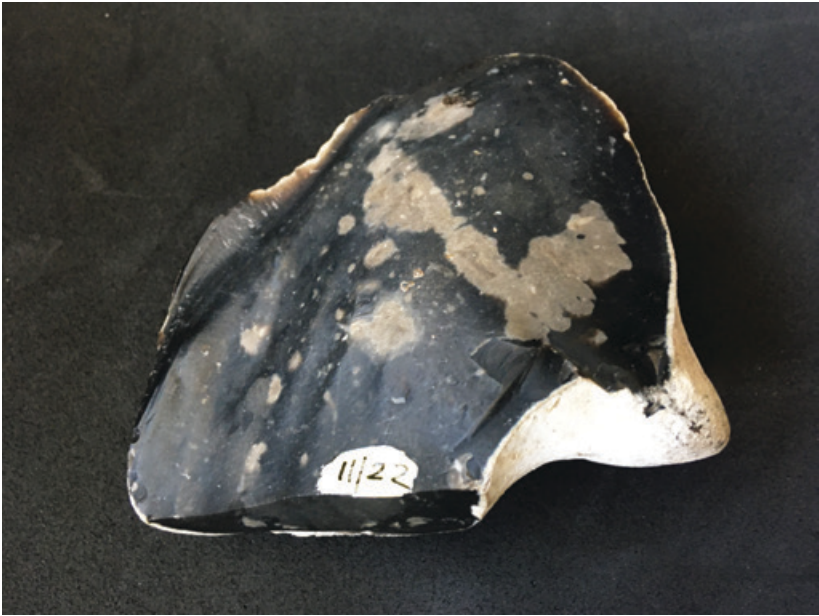


Figure 5.3 A nodule of flint from the south of England (11/22). Courtesy of the UCL Geology Collection (photograph: T. Kador).

will be able to testify – that the reality of making things is quite a bit closer to the natural processes at force, discussed in the above example concerning the shaping of a tree. That is to say, central to the processes of making is an interaction of the material's properties and the environment, with the added dimension of the maker's actions (and intentions). Every step along the path of making something, like a hand axe, after a flake/chip of flint has been removed, requires a reassessment before making the decision as to where and how to strike the rock to remove the next piece. And even the most skilled flint knapper cannot pre-determine with certainty exactly the shape, size and location of the piece (flake) their next blow removes. Instead, the strengths of a skilled and experienced flint knapper is not in anticipating exactly how the rock will break when they hit it but in determining their next step (blow) in response to it. Therefore, the process of making cannot be that of simply following a pre-determined template from beginning to end, as each step needs

to compensate for the material responding in a way that was not previously foreseeable. Hence, making is a process of continuous step-by-step improvisation, which Ingold terms ‘morphogenetic’ – or thinking through making (Ingold 2013, 22). Therefore, the processes by which natural objects and artefacts come about have more in common than is initially apparent. This then begs the question of what is the key difference between them?

In line with the above discussion, the key difference between natural and human-made objects is the degree of human interaction with the material in their emergence/creation. Without a knapper picking up a nodule of flint and removing flakes, it is highly unlikely that the nodule would ‘naturally’ transform into the shape of a hand axe. However, even without human interference, the material would continue to change and transform, whether it is a stone that weathers, a tree that grows or a fallen branch that decomposes. And similarly with artefacts, after people are ‘finished’ with them (that is, they have stopped using them), whether the object is lost, discarded or just left somewhere, they will also continue with their process of transformation.

The emergence of objects

Following on from the above, the human–material interaction that resulted in the emergence of what we call an artefact represents merely one part of the cycle of transformation of the material in question. But from an OBL perspective this stage in an object’s history is frequently very important and the present chapter is dedicated to better understanding these transformations, especially in relation to human-made artefacts. Having said that, we will also occasionally check back in with ecofacts to compare and contrast the degree to which similar approaches may be useful in better understanding natural objects. At this point, it may also be helpful to briefly engage with the question of when an object is ‘truly’ natural, as arguably as soon as any item is being perceived and named by humans it becomes cultural (Pearce 1994), even if it has never been physically modified (or perhaps even touched) by a person. For example, the moon did not only become a thing of cultural significance when Neil Armstrong first stepped on it in 1969. But for the avoidance of doubt, I do

not wish to create an artificial (cartesian) nature–culture dichotomy here: the opposite, in fact. The point is to demonstrate how the entire world around us has been constructed culturally, and simply by naming an object it is already being ‘enculturated’. However, this does not mean that it ceases to be natural. Moreover, we can extend this to objects with significant human intervention, like the Acheulean hand axe. The natural properties of the flint and its geological (deep-time) history – entirely free of human interference – will remain a central part of this object even after it has been shaped into a hand axe. In fact, it is these properties of flint that made the knapper seek out this particular stone in the first place, as (relatively) easily workable and good to use for its intended purpose (such as with a hard, sharp cutting edge).

For the remainder of this chapter, we will focus on the emergence of objects from the point where a material has been selected (usually because of its properties) by a person to be turned into an object. What are the stages that material (or a range of materials) undergoes on its journey of transformation and how do we best discuss and understand them?

APPROACHES TO OBJECT PRODUCTION

Picking up from the distinction between the hylomorphic and morphogenetic models of making, and the similarities and differences between artefacts and ecofacts, we will now consider the underlying processes on a more step-by-step basis. As a useful starting point, we will once again return to the Acheulean hand axe, such as Object LDUCE-UC13577 found near Naqada, Egypt, from the Petrie Museum of Egyptian and Sudanese Archaeology (Figure 5.2). With a history stretching back over 1.5 million years to the Lower Palaeolithic, and a time well before the arrival of modern humans, these artefacts can be linked to *Homo erectus*, *Homo heidelbergensis* and other early hominins. They are one of the most ubiquitous and readily recognisable prehistoric objects, with known finds from Africa, Asia and Southern and Western Europe. Regardless of whether or not

we subscribe to the notion of a mental template (that is, hylomorphism), most people agree that these objects demonstrate a clear intention (although see Davidson's 2002 counter-argument) and a great level of knowledge and skill on the part of the maker. This starts with an intimate understanding of the chosen (raw) material, such as flint, chert, obsidian or quartzite. It is also worth reminding ourselves that although Acheulean hand axes primarily date to a time before the appearance of modern humans (c. 200,000 years ago in Africa), the use of lithic artefacts (or stone tools) persisted for most of our own species' 200,000-year (pre)history and well beyond the onset of metal working some 5,000 years ago. It is only during the Bronze and Iron Ages that many of their functions appear to have been gradually replaced by the new technology of metallurgy.

We must also consider an important point here, which is that stone working was not necessarily the most significant technology during the Stone Age. The dominance of so-called lithic artefacts in earlier prehistoric research is a consequence of the lack of preservation of organic materials, such as wood, bone, fibre/textile and basketry, which undoubtedly were at least of equal importance to stone throughout prehistory. We should also note that the change from Stone to Metal Ages only occurred in certain parts of the world where metal working was adopted, such as Africa and Eurasia, but not in the Americas and Australasia, where stone tools and organic materials remained the mainstay of technology until the arrival of European colonists in the early modern period. Therefore, in line with the discussion on the colonial legacies of collections in [Chapter 3](#), the idea of the Three Age System, mentioned in the [previous chapter](#), alongside the twin concept of seriation and typology, represents the fruits of a fundamentally Eurocentric perspective. The idea that objects could be placed in a (chronological) sequence based on the materials they are made from – that is, stone, bronze and iron – gave rise to further experimentation involving the observation of stylistic changes between objects of a similar type, believed to be evidence of technological advancement. This led to the comparison of 'related' object types, with the assumption that the simplest is the oldest and the most complex, elaborate or 'sophisticated' is the youngest and that these developments chart steady human 'progress' over time from the most 'primitive' to the most 'advanced'. Based on

this, scholars were able to construct entire chronological sequences of certain object types, such as axes (see Figure 5.4), spear and arrowheads – all of which cut across different materials, such as stone, bone and metal – but also construct typological sequences of objects made from the same material, such as, perhaps most famously, pottery (Figure 5.5).

Typologies such as these are based on a combination of close observation, prior experience and personal judgement, and rely on an assumption of steady progress (from simple to complex) over time. Despite the obvious Western capitalist bias inherent in this approach, a simple exercise – such as building a seriation of mobile phones – demonstrates that the principle of seriation can nonetheless hold some value (Box 5.1 and Figure 5.6). One key strength of the typological approach is that it requires a given object to be studied together (and in comparison) with other objects. It highlights that a comparative approach, considering a number of (similar) objects in combination, opens up many possibilities that are not available when working with a single object in isolation. Consequently, it is almost always advisable when studying an object to seek out opportunities for comparative work, such as by looking for related objects within the same collection or searching for similar objects contained in other collections.



Figure 5.4 The evolution (typology) of British Bronze Age axe head styles. Source: Bevan et al. 2024, reproduced from the Archaeology Data Service repository. Creative Commons: CC Attribution 4.0.

BOX 5.1 EXERCISE: CONSTRUCTING A SERIATION THROUGH TYPOLOGY

Note: This exercise should work well with the images displayed below but would be even more effective with the physical objects (or even just a number of them).

Figure 5.6 shows the main models of the iPhone from its first release in 2007 until the iPhone 15 in 2023, but they are mixed up. Based on these images and your personal experience of iPhone 'evolution', you are invited to place them into their chronological sequence from 1 to 15.



Figure 5.6 A range of iPhone models dating from 2007 to 2023. Can you put them in chronological order? (photographs: T. Kador).

especially technological change. Another approach that is primarily concerned with the technology of how objects (artefacts) are made is the so-called *chaîne opératoire*, for which we will return to prehistoric stone working.

Introducing the *chaîne opératoire*

Technology is the key word here. Making stone tools requires a distinct set of technical steps and not all stone tools are made the same way. One prominent twentieth-century scholar who engaged with the technological choices stone knappers made in the production of artefacts was French archaeologist André Leroi-Gourhan (1911–1986), who in the 1940s coined the concept of the *chaîne opératoire*, usually translated as operational sequence but sometimes also production sequence (Leroi-Gourhan 1943, 1964, 1993). This represents the step-by-step sequence of actions and processes used for making, using and eventually disposing of artefacts. It has been defined as ‘a series of operations which transforms a substance from a raw material into a manufactured product’ (Cresswell 1976, 26; Cresswell 1990). Or as described by Geneste, the *chaîne opératoire* represents the ‘means to chronologically organize the process of the transformation of raw material obtained from the natural environment and introduced into the technological cycle of production activities’ (1989, 76–77, translation from Bar-Yosef and Van Peer 2009, 105). In other words, the ‘concept of the *chaîne opératoire* puts emphasis on every stage of the tool’s production, particularly the supply and properties of raw materials’ (Martinón-Torres 2002, 31).

Through applying this concept, archaeologists can try to reconstruct the steps a stone knapper – and, as we will see shortly, artisans working with other materials – took to transform an unworked piece of stone, such as a flint nodule, to a ‘finished’ stone tool, like a hand axe, a knife, or an arrowhead (see below). In simple terms, the *chaîne* can be broken down into four stages: acquisition, production, consumption (use) and discard (Table 5.1). While Leroi-Gourhan mapped out the *chaîne opératoire* with specific reference to making lithic artefacts, these four simple stages can be applied to many materials and objects, such as ceramics, metallurgy and textile production (see below for some examples). The approach is still a significant element in lithic artefact research among prehistorians to this day, as it provides insights into the specific technological

| Acquisition | Production | Consumption/ use | Discard |
|--------------------------------|---|--|--|
| Procurement of raw material(s) | Working the material to produce the desired object(s) | Using the object(s) for a specific purpose | Disposal of the object after it has served its purpose |

Table 5.1 The four main stages of a typical *chaîne opératoire* approach

approaches knappers used and the choices they made along the way of creating an artefact (Figure 5.7).

As hinted above, there are different ways of working stone to make lithic artefacts, some depending on the raw material or the desired function of the object, while others seem to be down to personal choice or cultural traditions. Similarly, there are a number of ways for people studying lithic artefacts to approach these differences. ‘The crucial advance that the *chaîne opératoire* offered ... is that it frames the relationship between people and artefacts in terms of practice rather than abstract classifications imposed from the present’ (Walls 2016, 22). In Leroi-Gourhan’s words, ‘techniques are at the same time gestures and tools, organized in a veritable syntax, one which simultaneously grants to operational series their fixity and their flexibility’ (Leroi-Gourhan 1993, 164). Put differently, each step in the reduction sequence represents a human decision (how to strike the stone), a gesture (the actual strike) and a physical result (the detached flake). Therefore, close lithic analysis of the material remains, via the *chaîne opératoire*, can at times help researchers to determine the age of an artefact (based on typological comparison), whether a knapper was left- or right-handed or whether more than one knapper was involved as part of the wider production cycle. Marcia-Anne Dobres points out that ‘knowing the step-by-step physical actions and material procedures by which ancient technicians produced, prepared, modified, altered, shaped, used, repaired, reworked, recycled, and ultimately discarded their material culture, tells the researcher an enormous amount’ (Dobres 2000, 168). But she also cautions that if this is to be of any use, this research on technical steps needs to be

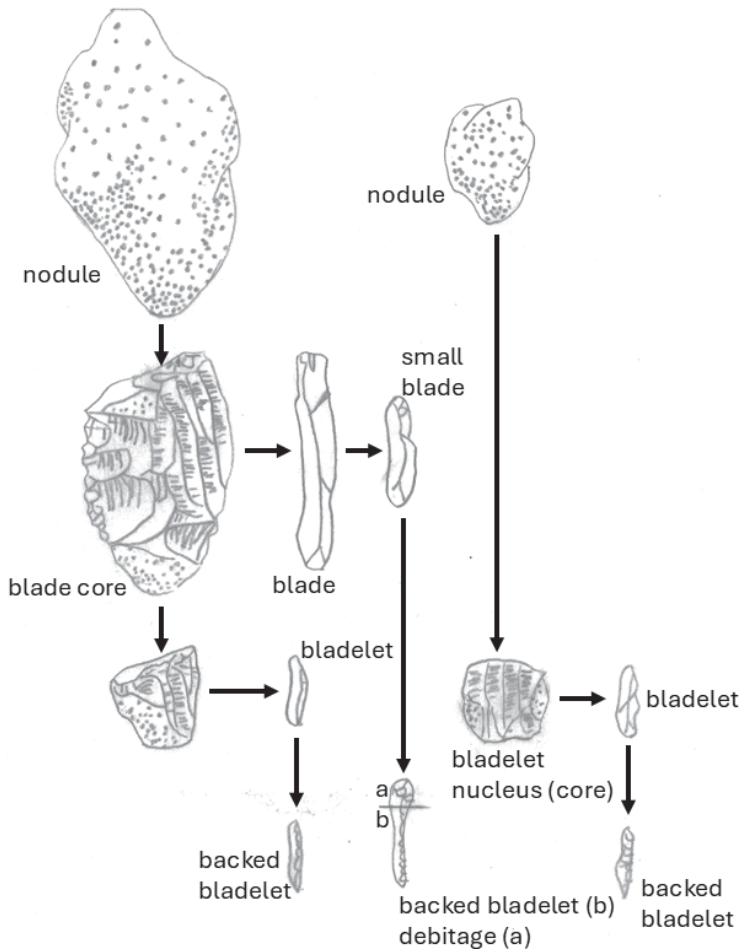


Figure 5.7 Illustration of a typical *chaîne opératoire* for lithic artefacts after Karlin et al. (1991, 107), redrawn by T. Kador.

integrated with the ‘re-insertion of artifice, meaning, and sociality’ (Dobres 2000, 155), in order to appreciate that an artefact’s ‘life’ has ‘as much a social as a material beginning’ (Dobres 2000, 168). In other words, just reconstructing the technical steps of producing an object only tells part of the story. It is of at least equal importance to aim to understand the social and cultural contexts within which all technology is situated.

As mentioned above, since its initial establishment in the 1940s for the study of lithic artefact production and use, the concept of the *chaîne*

opératoire has been applied to many other materials and artefact types. Perhaps most prominent among them are pottery production (Berg 2011; De La Fuente 2011) and metal working (Kuijpers 2018) but also the making of textiles, paper and glass as well as the preparation of animal skins (see contributions in Lewis and Arntz 2020).

There are also some interesting examples of where an idea taken from one technology is executed through another and/or in a different material. This can happen when communities encounter a new type of object but copy it through using a technology (and material) that is familiar to them or if a certain raw material is not available locally. For instance, there are examples of daggers and axes from Late Neolithic Scandinavia made of flint, which appear to be near-direct copies of copper daggers and axes from neighbouring regions where metallurgy had already been established (Frieman 2012). There are a number of such flint daggers and axes in UCLs Institute of Archaeology collection (Figure 5.8). A more recent example are handmade pottery jugs made by Shipibo-Conibo potters from Peru, copying mass-produced enamel jugs imported from Europe (Figure 5.9).

These examples are interesting from a *chaîne opératoire* perspective. Given the fact that such ‘copies’ require entirely different sets of technical steps (compared to the ‘original’) in order to achieve visually similar results, they highlight how material and context specific the *chaîne* is.

While the operational sequence helps us to think through the making process step by step, beginning with a raw material, in reality it is generally applied in reverse, as archaeologists tend to most commonly encounter the ‘finished’ (lost or discarded) artefact and have to start from there. Consequently, they must then try to apply the process of making and using the object backwards. The ultimate aim is to utilise the stages of production in order to gain a better understanding of the social and cultural contexts in which an object has been made and used (Dobres 2000). Or, taking this one step further, sometimes researchers may even attempt to gain insight into the minds of ancient people (Schlanger 1994) through the decisions they made in relation to working with materials. It is of course also possible to approach the *chaîne opératoire* the other way around through (ethnographic) observations of living artisans (artefact makers), which has often been done with the aim of gaining a fuller understanding of manufacturing steps that may not be readily apparent when reconstructing the process



Figure 5.8 Early Bronze Age copper alloy dagger from the River Thames in London (1882,0518.6) (left) and Scandinavian Late Neolithic/Early Bronze Age flint dagger from Denmark (Den.286) (right). Courtesy of the British Museum.

from a ‘finished’ artefact. This also allows insights into ephemeral processes and materials that would leave little or no archaeological trace, as exemplified by Coupaye’s (2009) *chaîne opératoire* research on yam cultivation and processing in Papua New Guinea. Having the opportunity to discuss their perspective with makers and users of objects lends itself to a more fully fledged biographical approach and a more holistic understanding of an object’s social life, which will be the main focus of [Chapter 6](#).

Contemporary experimentation

In the absence of a living population who they can observe making objects and discuss with them the (technological) choices they make, archaeologists sometimes conduct their own experiments in



Figure 5.9 Shipibo-Conibo pottery copy of (a European) enamel jug, Ucayali River, Peru (photograph: B. Sillar).

order to test their hypotheses regarding how an object may have been created. Such experimental approaches can also be extremely helpful in gaining a fuller appreciation of the complexities and likely time investment required in making objects without the benefit of modern technologies. In particular, experimental archaeology can help highlight the gaps in our understanding of the making processes and allow us to ‘fill in’ the ‘blanks’ left because of (objects made from) less durable materials that have not been preserved. But preservation of objects notwithstanding, archaeologists almost always deal with an incomplete set of remains from the past and experimental approaches are usually very well suited to highlight what might be missing.

As mentioned above and discussed in [Chapter 4](#), there is an over-emphasis in archaeology on artefacts made from inorganic materials – especially stone and clay (pottery) as well as to a lesser degree metal and bone – simply by the virtue that they usually preserve much better than organic materials. However, occasionally, due to very specific circumstances – such as very wet, very dry or very cold conditions – organic materials, including wood, cloth and other fabrics, survive, thus filling in very important gaps in our understanding of technologies and

processes. If they do survive, and especially when associated with stone, clay or metal objects, they can provide extremely valuable insights into how these different materials may have been used together. They can thus shed light on the complex interactions between people and a range of materials and technologies in the production of even just a small number of relatively everyday objects. While initially *chaîne opératoire* models tended to focus primarily on the ‘procurement’ of the immediate materials required to make an artefact, more recent approaches have also started to pay attention to ‘secondary’ objects and materials that are required for procuring and making the ‘main’ object (Box 5.3 on pottery production highlights this well).

Some practical examples

As an abstract concept the *chaîne opératoire* may be relatively difficult to understand. Consequently, here I will provide two practical examples, applied to two different materials: flint and pottery (see Boxes 5.2 and 5.3). Alongside these I will present a case study, working through the stages of the *chaîne opératoire* with the help of an item from UCL’s Petrie Museum (Box 5.4). In order to highlight the diversity of materials to which a *chaîne opératoire* approach could be employed and the complexities that each of them brings with it, these examples all draw on objects made each from different material(s).

BOX 5.2 EXAMPLE 1: LITHIC ARTEFACT PRODUCTION

As mentioned above, the *chaîne opératoire* was originally developed for the study of lithic artefacts. According to Schlanger (1994, 145), ‘the lithic medium – in its durability, its sequential and subtractive exploitation, its non-commutative retention of traces of action – is particularly well suited for such studies [a *chaîne opératoire* approach]’. In other words, there are three key aspects that make lithic artefacts ideally suited for studying the *chaîne opératoire* (Figure 5.5). First, lithics preserve extremely well for millennia, almost regardless of environmental conditions; this also includes the ‘waste’ that was created as part of their production. Second,



in its simplest form, stone knapping involves only the reduction of material. That is, lithic artefacts are produced by removing smaller pieces (blades and flakes) from a larger core. This stands in contrast to other technologies such as pottery, metallurgy or weaving, which require the addition of materials. Third, lithic artefacts retain the traces of the reduction process (that is, removal scars). This means that any previous flake or blade removed from a core will leave a trace on the next removal, thus making it possible (in theory) to reconstruct any removals and rebuild a core, if all (or most) of the removed flakes and blades are available to do this.

Following Geneste (1985), Schlanger (1994, 146) presents a relatively simple system of lithic reduction consisting of six phases (see Figure 5.7) – but following the four overall steps (acquisition, production, consumption and discard) discussed above – as follows:

- Extraction
- Shaping the core
- Production of blanks
- Retouch or direct use
- Use
- Abandonment

BOX 5.3 EXAMPLE 2: THE *CHAÎNE OPÉRATOIRE* IN POTTERY PRODUCTION

As an alternative model to the dominant application of the *chaîne opératoire* to lithic artefact studies I will provide an example of the steps and technological choices associated with pottery production. Sillar and Tite (2000, 4) list the following ‘five areas of “choice”’ within technology for pottery production:

1. raw materials from which the pottery is made (e.g., clay, temper, pigments, water);



2. tools used to shape the raw materials (e.g., picks, spades, settling tanks, scrapers, wheels, workshop structures, kilns, carts; by far the most important tool is the potter's hands);
3. energy sources used to transform the raw materials and power the tools (e.g., animal or water power to grind clays, sun to dry vessels, fuels to fire them; by far the most important source of power is the potter's body which collects materials, shapes the vessels, powers the wheel, loads the kiln, etc.);
4. techniques used to orchestrate the raw materials, tools, and energy to achieve a particular goal (e.g., to collect and process the clay, to form the pot, to surface treat, decorate, and fire the vessel; again, note that most of these techniques are enacted through the potter's body and his/ her manipulation of the tools);
5. the sequence (or *chaîne opératoire*) in which these acts are linked together to transform raw materials into consumable products. This includes the order of the techniques, the frequency with which they are repeated, and the locations at which they take place (e.g., is the clay pounded and sieved before adding a temper to it, does the potter do this each day, once a week, or twice a year, and to what extent is the clay processed at source, at the potter's house or at a specialised clay processing area?).

BOX 5.4 CASE STUDY: ANCIENT PRESERVED LINEN CLOTHS FROM THE PETRIE MUSEUM OF EGYPTIAN AND SUDANESE ARCHAEOLOGY

As we have seen in [Chapter 4](#), organic materials, such as wood, food, cloth or other fibres, do not usually survive for very long, as the organic compounds they are made of tend to decompose relatively quickly, especially if the items are left in the open or in



contact with the ground. However, the exceptionally dry and stable conditions inside ancient Egyptian and Sudanese burial tombs can occasionally result in such organic materials being preserved for several millennia. Consequently, the Petrie Museum of Egyptian and Sudanese Archaeology holds a not insignificant collection of textiles excavated from tombs. Most of these are made from linen, although some wool and other textiles have also been identified. As most *chaîne opératoire* approaches focus on lithic and pottery technology and to a lesser extent metallurgy, I thought that it might be interesting to illustrate what a *chaîne opératoire* perspective of linen garments might look like. To do this, we will follow the four phases of the *chaîne opératoire* outlined by Geneste and Schliager, which we considered above (see also [Tables 5.1](#) and [5.2](#)).

Acquisition

In contrast to stone (and clay), an already significant amount of time, effort and labour needs to be invested in obtaining the raw material for making linen: flax. The first step in this context is sowing flax seeds and tending to the growing plants for at least half a year until they are ready for harvesting. When harvest comes, the sheafs (stalks) of flax need to be cut near the ground to obtain the maximum length of fibre. This requires an appropriate cutting tool, such as a sickle, which will have its own *chaîne opératoire*. During the Stone Age, sickles were made with flint or obsidian blades, following the process outlined in Example 1 ([Box 5.2](#)). After blade production, they would be set into a wooden or bone sickle. During the Bronze Age and later periods, the sickle blade would have been manufactured from metal (copper, bronze or iron), but again combined with a wooden haft or handle.

Once the sheafs of flax have been cut, they need to be collected and stored in a warm and dry place so the plants dry out completely before they can be processed further. As flax is extremely flammable, drying tends to happen in the sun only rather than with the aid of a fire. When the flax is totally dry it is ready for further processing.



Production

With linen it is perhaps less clear cut at what point acquisition ends and production begins, but for the purpose of this exercise I have drawn the line between the growing and harvesting of the flax plant and the further processing of the fibre.

Making the thread

The dry flax plant can now be pounded with a mallet, hammer or stone to separate the fibres from leaves and other plant matter. The fibres now need to be collected and combined to start turning them into thread. The first step of this is usually a process of brushing or combing the loose fibres with a wooden, bone, ivory or metal comb (or brush). Once brushed, the strains of fibres can be loosely rolled together between the thumb and index finger and spun into yarn (thread) with the help of a spindle or spinning wheel. For making fabric, ideally the threads should be as long and continuous as possible and are usually rolled up into a ball. This concludes the making of the thread.

Weaving cloth

Once the thread has been spun it can be wrapped around a loom or other weaving device. The most basic form of this is a simple wooden frame with the threads of linen being fed up and down in tight parallel lines (that is, all facing the same direction). With the loom ready, another length of thread is passed through the frame in a perpendicular (90 degree) direction to the prepared threads. This process is usually carried out with a blunt needle or knife often referred to as a weaving sword (which again could be made from a range of materials and has its own *chaîne opératoire*). The sword is moved up and down across the existing threads so that the thread it pulls forms a line across the frame. After every few rows, a comb or similar device is used (but this can also be done with the fingers) to make sure the rows are as tightly together as possible, which will give the fabric a firm structure. After the desired size of cloth has



been achieved, it is cut from the loom and the ends are knotted so the weave keeps its integrity.

Making garments (for example, sewing)

Now the cloth is ready for the next step of production such as dyeing it in a different colour and/or sewing it into a garment. There are countless possibilities for how a woven cloth could be further prepared as garments, which we will not go into here any further. But once the desired garment is produced, this concludes the production phase of our linen 'object'.

Use

The desired garment has been completed and is ready to be worn. Occasionally it might get damaged or it could become too small or large for its wearer. In this case it can be mended and/or altered (with the help of other pieces of fabric) and then reused again until such a point that it is worn out (beyond repair) or is no longer wanted by its wearer.

Discard

The old or unwanted item of clothing may then be given away, discarded or reused in new ways, such as being cut up for cleaning cloths or wrappings or pulped to make paper (although at this stage it needs to be pointed out that in ancient Egypt, paper was made from the papyrus plant and not from old rags). Another possibility is that the wearer may have passed away and the garment is buried with them either on their body or placed in their tomb beside them.

From a *chaîne opératoire* perspective, this marks the end of the sequence, even if the fabric defies the odds and survives for long enough to be subsequently excavated by an archaeologist and conserved for further research, analysis or perhaps even exhibition purposes.

Based on the six phases outlined above and as illustrated in [Table 5.2](#), the process involves the following.

Acquisition

Procurement of a suitable stone for producing the desired object. This could be by looking for and testing pebbles and cobbles naturally occurring in the landscape, deliberately mining for a specific rock, or perhaps even exchanging a desired raw material with another person.

Production

1. Turning the stone, pebble, nodule or cobble into a core by preparing a striking platform.
2. Producing a number of blades and/or flakes (blanks) by striking the platform with another (so-called hammer) stone, a piece of antler, wood or similar.
3. Shaping the produced blanks by carefully preparing (for example, sharpening or blunting) the edges in a process known as retouching.
4. Potentially attaching (hafting) the flake or blade to another object such as a wooden, bone or antler handle to use it as a knife, sickle, spear or arrow (see [Figure 5.7](#)).

| Acquisition | Production | | | Consumption | Discard |
|------------------------------|---------------------------------------|---|--|--|-------------------------------|
| Phase 0 Extraction | Phase 1 Shaping the core | Phase 2 Production of blanks | Phase 3 Retouch or direct use | Phase 4 Use | Phase 5 Abandonment |
| ‘Entame’ | Decortification Striking platform | | | Resharpener Recycling Transformation | Discard Wear |

Table 5.2 Lithic technology as a system of production, based on Schlanger (1994) and Geneste (1985).

It also needs to be made clear that the production phase is not necessarily linear; for example, after a number of blank removals it may be necessary to establish a fresh (or rejuvenate the existing) striking platform. Moreover, as 4) above highlights, the *chaîne* for one object/material may frequently be linked with other *chaînes* for other materials, as in this case for stone (of the lithic artefact and the hammer stone) and wood, bone or antler (for a shaft or handle) but also the bindings, potentially comprising glue (made from skin or resin) and string (made from plant fibres or animal sinew). Hence it is important that the *chaîne opératoire* is not seen as hermetic but as open and connected to other parallel *chaînes* (Cresswell 1990; Lemonnier 1993; Lewis and Arntz 2020).

Use/consumption

Once the object has attained the required form, it is used for its desired purpose or sometimes multiple purposes. If the object gets worn or breaks, it may be reshaped and/or potentially prepared for an alternative purpose.

Discard

After it has served its purpose (or perhaps after breaking) the object is left behind, discarded or disposed of. Alternatively, it may be lost or deliberately deposited intact (or even new), for example as part of a hoard of objects or as a grave good in a burial.

At this point most *chaîne opératoire* models end, as they are most often concerned with the archaeological manufacture and use of objects (that is, in the past). Although, of course, the life cycle of the object itself and (as we have seen in Chapter 4) especially its material(s) does not end there. This is something that will be discussed further in Chapter 6.

While Sillar and Tite (2000) only associate the fifth choice with the *chaîne opératoire*, based on the steps reviewed above in relation to lithic artefacts, it seems clear that raw material procurement and treatment, tools and techniques used, as well as energy applied all form part of the operational sequence of turning clay into fired pottery (see Figure 5.10). Interestingly, Sillar and Tite also add consideration of the location(s) within which the different elements of the sequence take place.

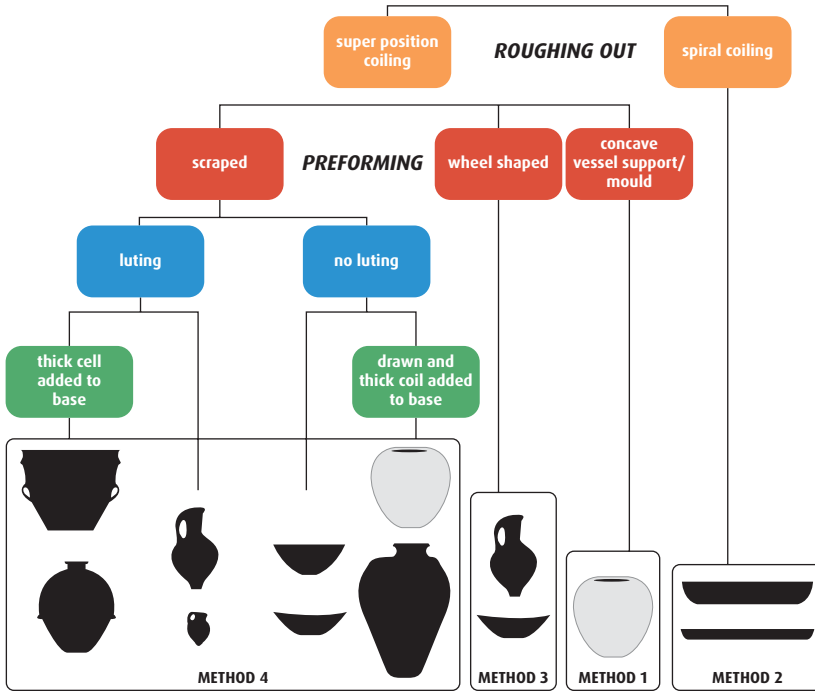


Figure 5.10 Dendrogram of pottery fashioning methods and vessel types at Tell es-Safi/Gath (reproduced from Ross et al. 2020, redrawn by T. Kador).

COMPLEMENTARY APPROACHES TO THE MAKING AND USING OF THINGS

Use-life and life history

Use-life approaches to objects, places and buildings were proposed by ‘processual’ archaeologists such as Lewis Binford (1982, 2002) and Michael Schiffer (1987). According to this perspective, artefacts (and buildings) ‘are said to have use-lives, during which their form and utilization can be modified’ (Tringham 1994, 175). According to Gosden and Marshall (1999), use-life ‘approaches focus on changes to the morphological or functional characteristics of an object or artefact, following, for example, the reduction of a stone tool through successive episodes of flaking and grinding’. They suggest that the

object, according to this perspective, 'is a passive, inert material to which things happen and things are done' and that such 'analyses do not address the way social interactions involving people and objects create meaning' (Gosden and Marshall 1999, 169). While Gosden and Marshall counter this by proposing a biographical approach, Tringham (1994, 1995) suggested a life-history approach, which she applied to prehistoric buildings rather than individual objects. However, there seems little reason why a similar perspective could not be applied to artefacts. Tringham states that the house should be 'considered as an individual, as a dynamic entity whose every month of life is significant for the men and women who act in and around it' and that the concept of life history has a 'more historical and humanistic significance than the term use-life' (Tringham 1995, 98). In essence, this perspective seems to come very close to an object biography, which we will turn to in [Chapter 6](#).

The agency of objects and materials

A term that has frequently appeared in recent writings about objects and material culture, and that is thus often encountered in more contemporary discussions of object production and technology (such as Dobres 2000; Dobres and Robb 2000; Malafouris 2013), is agency. The basic argument on this topic is that objects go beyond mediating social relationships between people and 'have an active agency of their own' (Johnson 2020, 141). This means that they have the propensity to make people behave and act in certain ways and 'to act back' (Ingold 2007, 11–12). The concept was first developed by Gell (1998) in 'Art and agency' and has since found broad application across the social and historical sciences (for example, Latour 1999; Knappett and Malafouris 2008).

The appeal of agency is that it allows 'human exceptionalism' to be countered by bestowing agency equally on human and non-human 'agents' (Ingold 2013). Being highly critical of the application of the term, Ingold refers to it as 'magical mind dust that, sprinkled among its constituents, is supposed to set them physically in motion' (Ingold 2007, 11). Equally, Dobres and Robb (2000, 3) write that agency 'has become the buzzword of contemporary archaeological theory ... a lingua franca — an ambiguous platitude meaning everything and nothing'. Ingold argues articulately that the rush to finding agency

in objects is ‘putting everything back to front’ and that in fact neither humans nor non-humans possess agency but that they (all of them) are instead ‘possessed by action’ and the ‘generativity of action is that of animate life itself’ that ‘lies in the vitality of its materials’ (Ingold 2013, 97). The point here is that rather than a mystical or magical soul-like quality entering objects at one point during their manufacture (as part of the transformation from ‘raw material’ to ‘finished object’), these qualities are always already present in materials. Put differently, and linking to the [previous chapter](#), materials are alive, and it is only the conceptual ‘killing’ of them by seeing them as static objects that necessitates the invention of agency to bring them back to life. However, if we view objects through the lens of their material properties and the continuous cycles of transformation they partake in, then there is no need to create a new dualism of physical object on one side and agency on the other, similar to body and soul.

Arrested development: breaking the cycle

Having said that, there can be a fine line between giving materials the space to be alive and conceptually ‘killing’ them (Ingold 2013), as in order to discuss, observe, investigate, analyse and describe things, viewing them as ‘static’ objects rather than ‘flowing’ materials brings some clear advantages. Otherwise, if we were to consider them as continuously changing, they would constantly evade any sort of definition or description. This, then, is one of the key dilemmas of working with objects, especially within a museum or collection context. They have by definition been taken out of their natural life cycle and sometimes quite literally put on a pedestal. This is perhaps most striking with natural history specimens – such as plant or animal remains. Without scientific conservation they would disintegrate within a short period of time after the organism’s biological life has ended. Hence it is only the arresting or at least slowing down of the natural processes of decay that makes it possible to store and exhibit objects and specimens as part of collections. However, by severing the ties to the object’s natural life cycle, we are also losing vital information about them. Therefore, the challenge for anyone interested in researching objects is to try and view the things we study within their natural life cycles, while in reality allowing for

the fact that they have been removed from this cycle. Some have discussed this process as a form of violence, resulting in ultimately ‘killing’ the object in question, with others viewing this as ‘arrested development’ (Bill Sillar, personal communications) in that collectors, curators and conservators are actively suppressing the object’s natural development (process of change) and preserving it in its current form. We could equally argue that while museum objects have been removed from their ‘natural’ life cycle through the process of adding them to a collection, they have also started to be part of a new (life) cycle, that of a cultural artefact. Thus, such objects’ future trajectory is likely to be very different to that of their un-curated and un-conserved counterparts. But on the flip side, once an object, regardless of whether it started out as a natural being or a human-made artefact, becomes accessioned to a collection and therefore a cultural artefact, the distinction between their erstwhile cultural and natural origins becomes very much blurred. This also means that we can frequently employ very similar approaches to study and discuss them.

Return to natural objects (ecofacts)

This then brings us both back to the start of the chapter and the differences and similarities between natural objects on the one hand and cultural artefacts on the other. Again, we can see that they in fact have a good deal in common. But it also provides an obvious link to the [next chapter](#) – concerning the social life of things. While the main focus of this chapter has been on understanding the making of objects by human (or hominin) action and the steps involved in this process, natural organisms equally go through stages as part of their transformations. The most obvious of these might be the metamorphosis of many insects from egg to larvae, to pupa and ultimately to a fully fledged insect (like a moth or butterfly, for example). But equally, returning to our example of a tree, it starts as a seed, turns into a sapling, then (although often many years later) a fully grown tree and eventually dies, decomposes and/or its wood gets turned into something else: a habitat for fungi, micro-organisms and animals, fuel for fire, or timber for making objects or constructing a dwelling. And along this process it produces (frequently many thousands of) seeds, some of which will give rise to new trees, but

it (especially a large tree) also provides a habitat for thousands if not millions of other creatures over its lifetime. While this cycle is not the same as the *chaîne opératoire*, these stages and processes of the tree's life are nonetheless engrained in and conditioned by its material properties. Thus, with the appropriate set of skills, we can identify at least some of its history, sometimes just based on a tiny fleck of charcoal or an object made from its wood. But while this characterisation of the life cycle of a tree is very broad and generic, almost applicable to any tree anywhere, the life history of no two trees – nor of any other organism or piece of material – is identical. This invites a more specific and refined biographical approach to the life cycle of any organism, but by extension also of any object made from materials, which will be the focus of the [next chapter](#).

FURTHER READING AND RESOURCES

The processes of making

For a critical discussion of the processes of making from a range of perspectives, albeit with a largely anthropological take, Tim Ingold's *Making* (2013) offers a starting point. Although perhaps somewhat dated, Henry Hodges' *Artifacts* (1989) still presents a valuable introduction to the making processes of objects, organised by material.

The key texts concerning the *chaîne opératoire* approach – such as those by André Leroi-Gourhan (1993) and Nathan Schlanger (1994) – have already been cited in the chapter, but as an introduction and/or relatively recent overview, perhaps 'The chaîne opératoire: Past, present and future' by Michael Lewis and Monique Arntz (2020) might be best suited. For specific *chaîne opératoire* approaches to different materials Françoise Audouze and Claudine Karlin (2017) provide a comprehensive overview concerning lithic artefact research, albeit in French. Guillermo Adrian De La Fuente (2011) outlines the use of a *chaîne opératoire* approach for pottery production, M. H. Kuijpers (2018) for metal working and Agata Ulanowska (2020) for textile production.

For literature on the role of agency in the production and use of objects, Marcia-Anne Dobres and John Robb (2000) present a useful overview, while Tim Ingold (2007, 2013) offers a stinging criticism.

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6

Object biographies and the social life of things

The key features of this chapter are:

- introducing biographical approaches to objects, materials and things;
- discussing some of the main theories underlying the social life of things and a biographical approach;
- reviewing the key stages to consider when writing an object biography;
- presenting some practical examples of what an object biography might look like.

After reading this chapter, readers should be able to:

- appreciate the key differences but also similarities between a *chaîne opératoire* and a biographical approach to objects;
- produce an outline of the key steps to take when writing a biography for a given object;
- critically employ object biographies to discuss inequality, exploitation and injustice in both the past and present.

DEFINING A BIOGRAPHICAL APPROACH TO MATERIAL CULTURE

In the previous two chapters we considered how objects and the materials they consist of have histories and the importance of these histories in relation to (determining) an object's material properties. However, so far this discussion has focused on the objects and materials more or less in isolation, taken out of the wider social and political contexts within which they circulate. Although in relation to the *chaîne opératoire* in [Chapter 5](#) we have already seen how there are frequently interlinking chains (of different materials). In practice of course, societal factors are vital to fully understanding the role an object plays or may have played for people. Arjun Appadurai, one of the researchers to formalise the idea of object biographies, asserted that in order to 'illuminate the concrete, historical circulation of things ... we have to follow the things themselves, for their meanings are inscribed in their forms, their uses and trajectories. It is only through the analysis of these trajectories that we can interpret the human transactions and calculations that enliven things' (Appadurai 1986, 5).

Consequently, this chapter will introduce the wider network, beyond strict procurement, production and consumption, in which materials and objects participate. In other words, objects and materials do not only have (life) histories but they also have social lives, and it is these social lives that will be at the forefront of the current chapter.

When discussing the concept of the agency of objects in [Chapter 5](#), we briefly looked at the similarities and differences between objects, people and other living beings. Continuing in this vein, one of the most common approaches to exploring the social life of a person is the biography. In its simplest form a biography is a bringing together, frequently in chronological order, of a series of biographical data, such as key milestones and life events. But according to Kopytoff (1986), 'a more theoretically aware biographical model ... is based on a reasonable number of actual life histories. It presents the range of biographical possibilities that the society in question offers and examines the manner in which these possibilities are realized in the life stories of various categories of people' (1986, 66). Kopytoff then applied such a model to things (rather than humans) and suggested that similar questions should be asked for a thing as for a human biography:

- *What, sociologically, are the biographical possibilities inherent in its 'status' and in the period and culture, and how are these possibilities realized?*
- *Where does the thing come from and who made it?*
- *What has been its career so far, and what do people consider to be an ideal career for such things?*
- *What are the recognized 'ages' or periods in the thing's 'life' and what are the cultural markers for them?*
- *How does the thing's use change with its age, and what happens to it when it reaches the end of its usefulness?*

(Kopytoff 1986, 66–67)

These five questions give us an excellent starting point for constructing biographies for material objects. Taking this argument forward, Gosden and Marshall (1999, 170) suggest that a biographical approach to material culture 'seeks to understand the way objects become invested with meaning through the social interactions they are caught up in. These meanings change and are renegotiated through the life of an object.'

Gosden and Marshall (1999, 173) also propose that 'people and things have mutual biographies which unfold in culturally specific ways'. They go on to suggest that objects 'can be understood only through looking at the cultural contexts which originally produced them and the new circumstances into which they later moved' (Gosden and Marshall 1999, 174).

From this we can conclude that in an effort to unravel the biography of an object, we need to focus on the changing relationships it may have had with people throughout the period(s) and different phases of its existence. In this context there are a number of key questions we may wish to ask in order to illuminate the various stages of the object's biography, which represent the different roles it may have played in the lives of people.

OVERARCHING CONCEPTS FOR THE SOCIAL LIFE OF THINGS

Below I will suggest and briefly discuss a range of the most likely key stages of an object biography, based on the interactions between

an object and humans. But before outlining these most common stages that are identifiable with the majority of objects, there are a number of terms that need to be clarified, as they transcend any object biography and should thus be returned to at any of the below stages. Readers are also reminded to refresh their understanding of key terms such as goods, commodities and gifts that were defined in [Chapter 1 \(Box 1.2\)](#), but see also below). The first of these terms relates to the concept of value.

The question of value

One of the central premises of a biographical approach is that the object's value will change with each of the steps below, sometimes slightly and at other times radically. This can of course include the commercial (monetary and/or economic) value of an object, but it also relates to the broader (non-financial) value we may place on an object as a society – such as moral, social or cultural value – or the personal value it holds for an individual, such as emotional or sentimental value. Therefore, in writing an object biography it is important to reflect on and discuss how the object's value has changed from one step to the next. In this regard it is vital to remind ourselves that this transformation is not necessarily always in the same direction (that is, from less to more valuable). For example, sometimes a museum may discover that an inauspicious item in its collection is in fact the work of an old master or be of much greater antiquity than previously thought (see [Box 6.2](#)) and thus have much greater cultural and/or economic value than previously believed. On the flip side, museums regularly re-evaluate works believed to be of great antiquity and value that turn out to be misidentified or even deliberate forgeries, which results in both their cultural and economic value immediately depreciating. A prime example of this is the *Salvator Mundi* painting, attributed to Leonardo Da Vinci, which during its auction in 2017 set a record as the most expensive painting ever sold at public auction. However, since then the attribution, provenance and history of the painting has been seriously challenged and if it were to come back to the market today, it would likely fetch a considerably lower sum than the \$450 million it sold for in 2017 (Das [2023](#)).

Alienable and inalienable objects

There is one further ‘twin concept’ that we need to discuss in the context of the relationship between objects’ value and their social lives and biographies: that of their alien- and inalienability. In fact, objects can (and often do) go through and change between repeated phases of being alienable and inalienable over their lifetime. The concept of alienation has its roots in the writings of Karl Marx (1964), who considered the value of objects (commodities) to reside entirely in the labour required to produce them. He thus described the perception that objects have value in themselves, separate from the labour, as fetishist, which in turn leads to exploitation. Consequently, according to Marx, alienation or an object being alienable relates to the separation of that object from the labour (and thus the labourer) who has created it, usually via the market economy.

Appropriation of the object appears as alienation to such an extent that the more objects the worker produces the less he possesses and the more he comes under the sway of his product, of capital.

(Marx 1964, 29)

Inalienable objects, on the other hand, are those where we remember the person who made them or who we received them from. Therefore, the value of inalienable objects is not purely defined by the (abstract) exchange value they would fetch on the open market, but also by the relationship with the person/people who created them or who intervened in their circulation. An example of this may be an item of clothing, like a woolly jumper, knitted for us by a close friend or relative. We cannot wear (or even look at) this item of clothing without being reminded of the person and our relationship with them. Similarly, works of art that are continuously associated with the name of the artist also fall under the category of inalienable objects, although clearly many works of well-known artists are also considered of high economic value, and in fact the monetary value of an artwork is inalienably linked with the status of the artist.

As per the example given above, it is of course perfectly possible that an alienable consumer good (that is, a commodity) purchased on

the market but then given as a gift can become inalienable through its association with the giver. A prime example of this is jewellery such as wedding or engagement rings. The bride looking at her ring will most likely not remember the jeweller, the miner or diamond cutter, but will rather think of her partner who gave the ring to her, who in turn bought it as a commodity for money. However, any such erstwhile inalienable objects may once again become commodities to be bought and sold on the open market and so on.

THE KEY STAGES OF AN OBJECT BIOGRAPHY

Having reflected on the overarching concepts that should be borne in mind during every stage of an object's biography, we can now start exploring the likely key stages in the social life of any object. But this will not – and clearly cannot – be an exhaustive list, as in theory there are an infinite number of possible life stages, with each object's (like each person's) biography being unique. At the same time, some of the stages suggested below will not apply to every object. The precise stages of an object's biography can only be determined by analysing the specificity of the object's social life. Nevertheless, hopefully the suggestions below will inspire readers to think of additional stages that are of particular relevance to the object they are researching.

Origins

As we have seen in [Chapter 4](#), every object comprises at least one and frequently a range of raw material(s). While the history of these materials is vital for understanding the object's properties and values, the focus of a biography tends to be the points of contact with humans and thus after the materials have already reached their current form and/or composition. However, it is of course perfectly possible to write an object biography from the very beginning of the formation of the object's raw materials, in the same way one could start a human biography with some biographical facts of the subject's parents, grandparents and more distant ancestors.

Birth or production

This is where would-be artefacts usually first come into contact with humans and therefore it makes a logical first stage for a biography. While a *chaîne opératoire* approach, as discussed throughout [Chapter 5](#), could be integrated into an object biography, usually the latter would adopt a somewhat less detailed perspective than that represented by the very small-scale and process-focused *chaîne opératoire* perspective. While the *chaîne opératoire* perspective tends to focus more on the details of each step in the production process (and the materials, actions, gestures and tools involved), a biography is usually more concerned with how the making of the object has an overall impact on its values and roles within the community that produced it.

The early life of an object

The next stage of the biography concerns itself with the original use of the object and the role it played in people's lives. The most straightforward example of this is a tool manufactured for a specific purpose, like an axe made for cutting down trees. The initial phase of this object's life would be its use for the purpose it has been designed for. This extends across periods of slight reworking, such as resharpening the blade or fixing or replacing a loose or cracked handle, which represent a separate phase within the *chaîne opératoire*. This phase comes to an end when the use of the object changes, either because it is lost, discarded or broken (beyond repair), it is repurposed for another function entirely or it is passed on to another person via some form of exchange.

Exchange

Some objects are of course not made to be used in the first instance (at least not by the person/people who produced them) but are made for exchange. Anthropologists distinguish between two main categories of exchange: those of gifts and commodities. While we briefly considered the meaning of both commodities and gifts in [Chapter 1](#), it is important to have a slightly more detailed discussion of them in the specific context of an object biography.

The gift

Every child understands the concept of a gift. It usually is an object or material thing that is given by one person to another without the immediate expectation of receiving something in return (in contrast to the commodity). However, twentieth-century theorists of gift exchange – such as Marcel Mauss (1990) – have demonstrated how the question of returning the favour is a key element of gift exchange, although this return tends to be delayed rather than immediate. The key benefit of this, especially from the perspective of the giver, is that this creates a social tie of obligation between the giver and the receiver until the latter makes a gift in return, and so forth. Thus, the two parties in gift exchange are tied together in a potentially perpetual back and forth of giving and receiving each other's gifts.

Commodities

Commodities – as first defined by Marx (1964) – in contrast to gifts are 'supposed to be alienable, so that they can be transacted without leaving a lasting relationship between the giver and the receiver' (Gosden and Marshall 1999, 173). The most common form of commodity exchange is that of consumer products, which are produced to be sold. They are exchanged for money, for a mutually agreeable amount so that neither the buyer nor the seller subsequently has any social obligations to the other. This is notwithstanding questions of product warranty, which arguably blur this relationship in the contemporary marketplace.

Clearly, the mechanisms involved in how an object has been exchanged between people are vital for its biography. Was it produced to be a commodity or made to be a gift, or was it produced to be used by the maker themselves (or people intimately known to them) and subsequently sold or exchanged as a gift? It is also important to highlight – as already implied here – that an object's role can change over the course of its 'life', and it could be a commodity in one type of exchange but subsequently become a gift. This in fact tends to be the case for the vast majority of twenty-first-century presents, such as birthday, Christmas and Chanuka gifts, which usually are bought for money and then given 'for free'. But the process can also happen in reverse and something given as a gift can later become a commodity. Appadurai makes this clear by pointing out that 'the commodity

phase of the life history of an object does not exhaust its biography', meaning that a commodity is not 'one kind of thing ... but one phase in the life of some things' (Appadurai 1986, 17). In summary, over its life course any given object could be part of multiple different exchange systems. Thus, the job of the object biographer is to try and unpick those to the best of their ability.

Loss, discard and/or destruction

Given that materials are in constant transformation (see [Chapter 4](#)), every object's life has to come to an end at some point. However, this is not necessarily the end point of its biography. In fact, as biographies are most commonly written about objects that still exist, the loss, discard or (partial) destruction of the object probably does not present the final point in its life. Although it is of course possible to write a retrospective biography of a lost or 'extinct' object that is no longer physically available (see contributions in Penner et al. 2021). Gosden and Marshall refer to this phase of an object's life as a 'sharp break' in its biography. But such sharp breaks do not only relate to an object being lost or destroyed but can also represent any other phase of an object's life that represents 'a radical resetting of meaning' (Gosden and Marshall 1999, 176). They attribute such radical resets especially to objects from colonial contexts that are subsequently brought into a Western context, but this is equally the case for most archaeological artefacts, which may have been out of use/circulation for centuries or millennia until they were excavated and interpreted and thus given a radically new meaning (and value). To some extent, this notion of a sharp break in an object's biography could be seen as the point at which the object has been 'killed' or its development arrested, as discussed in [Chapter 5](#). But as noted in that chapter, this moment is frequently the beginning of a new phase in an object's life.

The afterlife of objects

We could also term this the 'second life', which describes the period after an object has been (re)discovered or given new meaning and purpose, perhaps following a 'sharp break' as discussed above. As per the previous paragraph, this could be through it having been transported, following a colonial encounter, or through an archaeological (re)

discovery. But sometimes objects are forgotten about in ‘plain sight’ and are subsequently ‘rediscovered’ and/or reinterpreted.

Gosden and Marshall (1999, 170) describe the value of an object being determined ‘through links to powerful people’. They discuss this with specific reference to Kula valuables in the Trobriand Islands, a relatively small archipelago of coral atolls off the east coast of New Guinea that saw substantial ethnographic research attention in the early twentieth century. However, this relationship between value and power can also be applied in the context of contemporary everyday objects that acquire new meaning if they have been associated with a particular (usually famous and/or powerful) individual. Take, for example, John Lennon’s glasses (spectacles). They became a ‘trademark’ for the Beatles singer during his lifetime and some of the original pairs that he wore are now prized items in a range of museums and collections (Figure 6.1). If they were to be sold on the art market (as commodities) they would fetch substantial sums (Ricketts 2020), although no buyer would ever intend to wear them to help their eyesight. But their popularity has also given rise to an entire fashion trend in mass-produced eyewear.



Figure 6.1 John Lennon’s spectacles as sold by Sotheby’s in 2020 (Ricketts 2020; Sotheby’s 2020).

Therefore, this new phase in the biography of an object, usually involving its function beyond its originally intended use, for example as a museum object, is a key further step of many object biographies. Frequently, this is the starting point from which we set out to write a biography and work backwards, as this tends to show how we encountered the object in the present or recent past.

The future life of the object

While biographies may end with the object's role and position in the present, it is of course possible to speculate about the object's future life after its next transformation. In relation to a museum object this could involve conjecturing what will happen after it has been deaccessioned, restituted (see [Chapters 3 and 10](#)) to an origin community, sold to a private collector or perhaps even stolen or destroyed. But equally this could also address what occurs to an everyday item after it is thrown in a bin, recycled, lost or discarded, such as an item made of plastic that ends up in a river and ultimately the sea.

THE PROCESS OF WRITING AN OBJECT BIOGRAPHY

With the above stages in mind, it should be relatively straightforward to construct the outline of a biography of a given object, although of course the author's level of knowledge and available information will partially determine how much they can say about any one of these stages. Before adding some additional practical steps for writing an object biography, it might be useful to briefly consider why one might wish to do this in the first place and the benefits of adopting a biographical approach for the study of material objects.

The benefits of a biographical approach

As highlighted by the quote from Appadurai cited at the start of this chapter, we can only discover the meanings of things through analysing their forms, uses and trajectories. 'From a *theoretical* point of view human actors encode things with significance, from a *methodological* point of view it is the things-in-motion that illuminate their human and social context' (Appadurai 1986, 5, emphasis in original). In other

words, taking a biographical approach, through following things-in-motion (as their use and value changes over time) we can gain a better understanding of the people that made, used, bought, sold and gave them away and the wider societal contexts within which these activities took place. While some theorists have argued (as discussed in the [previous chapter](#)) that the *chaîne opératoire* allows us insight into the mind of the artisan, the key strength of the object biography is that it enables us to hold a mirror to society through the way people interacted with the objects in question.

In this sense, an object biography can illuminate issues of culture and society, including questions of ownership, alienability, identity, intentions, practices and relatedness. Crucially, and in stark contrast to approaches we have examined in previous chapters, object biographies allow (and almost necessitate) an explicit focus on value. That is not only the value of the object itself but also how societal (economic, moral, cultural, social, and so on) values have changed over the lifetime of the object.

Adopting the perspective of the object as ‘socially neutral’ in itself, a biography can highlight the social states and changes it has ‘witnessed’. While the object has remained largely physically constant (phases of damage and repair notwithstanding), it can be juxtaposed with the dramatic social changes that have taken place around it. This also invites a critique of inequalities and exploitation present in contemporary or past societies. Given the ease with which objects can move between alienable and inalienable states, a biographical approach can provoke questions about the degree to which humans (as opposed to objects) are truly inalienable and illustrate examples of human objectification and commodification in the past and present.

Finally, and in contrast to the *chaîne opératoire* or material culture approaches, an object biography can be highly personal and even intimate. This also allows us to explore the emotional – rather than purely social – connection humans can have with objects, which will be the primary focus of the [next chapter](#).

The steps of writing a biography

The exercise in [Box 6.1](#) presents the main practical steps and considerations to follow in producing an object biography. I would like to invite readers to have a go and at least attempt an outline

BOX 6.1 EXERCISE: THE MAIN STEPS IN WRITING AN OBJECT BIOGRAPHY

1. Select an object, state its name and briefly describe it.
2. Chose a starting point for the biography. What is the most useful point to view as the start of the object's 'life'?
3. Outline the key stages in the object's biography from the starting point to its present state (or perhaps even its future).
4. Write an account of each of these stages. This should be mainly descriptive but can briefly indicate, where relevant, the theoretical (anthropological, archaeological, (art) historical and so on) ideas that underpin this account.
5. Pay particular attention to those 'life' stages that involve the object crossing human-constituted boundaries (such as of time and space but also class, ethnicity and culture). Is there a 'sharp break' in the object's biography? If so, what is it?
6. Include explicit considerations of the changing values of the object and the wider changes in value systems these highlight. This can also include a critique of (some of) these values and reflections on inequalities, exploitation and environmental destruction.
7. Do not forget to include a personal, intimate and/or humorous angle, as this can really bring the biography to life.

of a biography. It is of course perfectly possible to do this with the same object used to produce the steps of the *chaîne opératoire* (in [Chapter 5](#)) and/or to discuss the material properties of an object (in [Chapter 4](#)). I have demonstrated precisely this in Case Study 1 ([Box 6.2](#)), based on the Tarkhan Dress from the Petrie Museum of Egyptian and Sudanese Archaeology, which we have already encountered in [Chapter 5](#) (see [Box 5.4](#)). However, I have also provided an example of a very different kind of item, a specimen from UCLs Grant Museum of Zoology ([Box 6.3](#)). Finally, it can also be very

illuminating to compose an object biography with a contemporary everyday object, such as a pen/pencil, toothbrush, coffee cup, water bottle, set of keys or even a mobile phone. Beyond the realm of objects per se, people have composed biographies of buildings, with the concept of building biographies having developed into a field of its own (Rogasch 2014). All of these will potentially highlight the complex web of social relations their makers/builders, owners and ‘fellow travellers’ are caught up in.

An object biography can be as long as you like (or as long as it needs to be), and in order to do an object justice a ‘full’ biography would probably likely be a few thousand words long. However, for the purpose of this exercise – and in line with the examples provided (see [Boxes 6.2](#) and [6.3](#)) – I would suggest that you keep your first attempt to around 800 to 1,000 words. Having said that, if you like you can of course expand on this subsequently and turn this brief biographical outline into a more thorough object biography.

Speculation and conjecture

There will most likely be aspects from the life of the object that are unknown or even unknowable. In these cases, you may wish to carefully speculate, using educated guesswork or conjecture regarding some aspects of the object’s life. While an object biography may start out as being a detailed discussion of the key milestones in the object’s history, it may evolve into a critical discussion of the society/societies the object was and/or is part of and the associated value systems.

Some examples and case studies

Having presented the key headings for an outline object biography, it might be useful to demonstrate this approach via a practical example from UCL’s collections.

By the way of a summary, there is not a singular, correct way of writing an object biography, as the life cycle of no two objects – even mass-produced ones – is identical, and perhaps even more importantly, the relationship of any given object to the biography’s author is unique. The capacity of material things to allow people to make personal, emotional connections is an essential aspect in writing object biographies and will be the main focus of [Chapter 7](#).

BOX 6.2 CASE STUDY 1: THE TARKHAN DRESS AT THE UCL (PETRIE) MUSEUM OF EGYPTIAN AND SUDANESE ARCHAEOLOGY

This example picks up the thread (excuse the pun) from the case study in [Box 5.4](#) where we explored the *chaîne opératoire* based on an ancient piece of linen, such as LDUCE-UC28614a-j from the Petrie Museum of Egyptian and Sudanese Archaeology. Hopefully the contrast between the account in [Chapter 5](#) and the following will serve to highlight the difference between a *chaîne opératoire* and a biographical approach, following the steps described in [Box 6.1](#).

The starting point for the biography

In 1913, William Matthew Flinders Petrie led archaeological excavations at an early dynastic cemetery in Tarkhan (Kafr Ammar, Kafr Turki), Egypt. During the excavations of an early Bronze Age (First Dynasty, c. 2800 BC) tomb (Tarkhan Tomb 250) the excavators unearthed a pile of fabric.

It was over 60 years later, in 1977, when this pile of fabric was cleaned and conserved at the Victoria and Albert Museum's Textile Conservation Workshop that a total of 18 well-preserved linen items were discovered (Landi and Hall 1979). Among them was a linen shirt (or the top half of a dress) with its V-neck collar and pleated sleeves still intact ([Figure 6.2](#)). After conservation, the item (along with the other fabrics) was returned to be displayed at the Petrie Museum, although the question of its age has continued to be a bone of contention.

The above provides a very brief snapshot of the known biographical facts of LDUCE-UC28614a-j (the Tarkhan Dress). With these facts we can now follow the steps (from the exercise in [Box 6.1](#)) and outline the key stages in the object's biography, as follows:

The object's life started as a harvest of flax sometime and someplace in prehistoric Egypt, before it was first spun into thread, then woven into linen cloth and ultimately sewn into a garment, following the steps discussed as part of the case study in [Box 5.4](#)





Figure 6.2 The Tarkhan Dress (LDUCE-UC28614a-j). Courtesy of the Petrie Museum of Egyptian and Sudanese Archaeology, UCL.

in [Chapter 5](#). After manufacture, the garment was worn for a while and there is clear evidence of this (see below), although we do not know if it was worn by the maker (or a family member) or whether it was sold to the wearer as a commodity (or perhaps given as a gift). As the final step before its 'sharp break', the garment was placed



together with a range of other fabrics into a large niche constructed from mud bricks inside a tomb (mastaba 2050) in the First Dynasty cemetery of Tarkhan (Stevenson and Dee 2016).

Following a prolonged period of remaining inside the tomb, the linen was excavated in the early twentieth century and brought to London, where it eventually ended up in the collection of the Petrie Museum (see [Chapter 3](#) for a brief history of the PMESA).

During conservation, over 60 years later, conservators revealed a well-preserved woven garment – probably the top part (sleeves and bodice) of a dress – among a number of linen items, thus giving the object a new ‘life’ as the ‘Tarkhan Dress’ (initially also referred to as ‘Tarkhan Tunic’) and it has been exhibited since then at the Petrie Museum.

Although the object has not left the museum since the 1970s (therefore, for nearly 50 years), its story does not end there. In 2015, when dating technology had improved substantially, so that only tiny samples are required to reliably date an object (made from organic material), a 2.24 mg sample of fabric was sent for dating to the University of Oxford’s Radiocarbon Accelerator Unit. The result revealed that the item dated (with 95 per cent probability) from 3482–3102 BCE, making it the oldest known surviving woven garment in the world (Stevenson and Dee 2016).

Finally, you may remember that the guidelines for writing an object biography included a suggestion that they should contain a personal, intimate and/or humorous element. Consequently, I have held back one interesting detail about the dress discovered by the conservators in the 1970s. When they conserved the garment, they discovered creasing around the armpits and elbows, which provided clear evidence that the tunic had been worn. Moreover, the conservators also found that it had been placed into the tomb inside out, ‘as it might be after pulling it off over the head’ when it was taken off for the very last time (Landi and Hall 1979, 144). Finally, given the garment’s (relatively small) size, it seems that its wearer was a person of modest build. It would be tempting to argue that they were a young person or a woman of relatively small stature. Unfortunately, according to Petrie’s excavation notes,



mastaba tomb 2050 had been badly disturbed and consequently no human remains were unearthed. Therefore, it is not possible to say whether the garment may have belonged to the interred person themselves, if the wearer was a relative of the deceased or if it was a 'more general' grave good. While the state the garment was left in the tomb – creased, inside out and rolled up in a 'ball' – may seem like a relatively minor detail in the context of the spectacular discovery of the dress and its age, to me this really enlivens the item and makes it personal, perhaps because it reminds me of the state my own children frequently leave their clothes lying around after taking them off.

BOX 6.3 CASE STUDY 2: THE WORLD'S RAREST SKELETON, GRANT MUSEUM OF ZOOLOGY

As we have already seen (in [Chapter 3](#)), the Grant Museum of Zoology and Comparative Anatomy is home to specimens of several extinct and critically endangered animal species, especially those from former (British) colonies in the Global South. Among them is one of the rarest skeletons in the world, that of the quagga (*Equus quagga*; LDUCZ-Z581 – see [Figure 6.3](#)). Quaggas were small horse-like animals related to the zebra but only stripey at the front of their bodies. They roamed the plains of South Africa before being made extinct in the 1880s due to overhunting and the expansion of livestock farming into their habitat. As (trophy) hunters would generally focus on the skin (and sometimes skull) but rarely retain the other bones of their prey, only seven quagga skeletons are known to exist in the world today, with five in museums in Europe and two in the United States. Ironically, but perhaps unsurprisingly there are no known quagga skeletons anywhere in Africa, but two are in London (one at the Natural History Museum and one at the Grant).

It is not known exactly how and when the quagga skeleton arrived at the Grant Museum but in terms of starting the biography of this specimen, it is safe to say that the living animal who the bones once





Figure 6.3 The quagga (*Equus quagga*) bone specimen at the Grant Museum of Zoology, LDUCZ-Z581. Courtesy of the Grant Museum of Zoology, UCL. Note the 3D-printed left hind leg and right shoulder in black.

belonged to lived prior to the 1880s, as the last known wild animal was killed in the 1870s and the final surviving animal died in 1883 in Amsterdam Zoo. In fact, this animal may have subsequently been turned into the bone specimen that can now be found in the Rijksmuseum van Natuurlijke Historie in Leiden, the Netherlands. However, with LDUCZ-Z581 we cannot be sure whether these are the remains of a wild animal or one that died in captivity. There are no clear marks of injury from a bullet on the skeleton, but this does not rule out the animal having been killed by a hunter either. The skeleton is missing a number of bones (see below), which could thus conceal such an injury. Moreover, a bullet may have inflicted a lethal wound to essential organs or due to blood loss without visibly damaging any bones.

This leaves us with two alternative beginnings for the specimen's biography. One is that it once roamed the plains of South Africa and was shot or trapped by a hunter, and its body (or at least the



bones) was brought to Europe specifically for the purposes of being researched and exhibited. The other option is that the animal was trapped alive in South Africa sometime during the nineteenth century and transported to Europe, where it subsequently lived and eventually died in a zoo before being turned into a specimen. There is no evidence of any quaggas ever having been bred in captivity, hence in either of these two scenarios the quagga would have started its life as a wild animal in South Africa.

When looking for the perhaps most likely candidates of ‘donor’ animals for the specimen, it would seem sensible to begin with London. In fact, London Zoo was home to three quaggas between 1831 and 1872, with one of them being photographed in 1864 and 1870 (ZooChat 2009; ZSL 2024). Incidentally, the photographs of this animal are believed to be the only existing photographs of a live quagga (Figure 6.4). It is tempting to suggest that the Grant

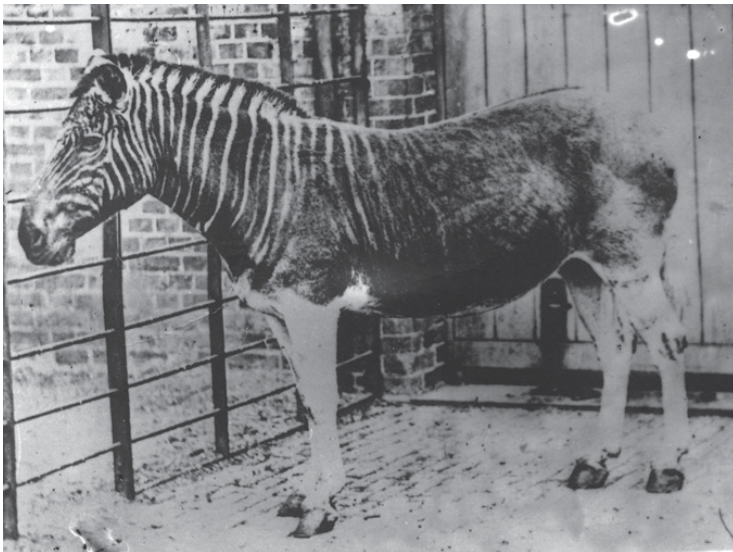


Figure 6.4 The only quagga ever photographed at London Zoo (in 1870). Courtesy of the Zoological Society of London (photograph: Frederic York).



Museum's specimen may have been one of these three 'London-based' quaggas, but unfortunately the evidence of the specimen's biography does not seem to support this. Analysis of the Grant Museum's quagga (see below) revealed that this specimen stems from a female animal. Two of the London Zoo quaggas were male but the third, the one photographed in 1864 and 1870, was female. However, there is documentary evidence to suggest that the skeleton of this animal was subsequently sold to the Peabody Museum at Yale University, USA, with its fur ending up as the taxidermy specimen that is now at the National Museum of Scotland in Edinburgh (Figure 6.5; Berg et al. 2012). Therefore, it seems highly unlikely that the Grant Museum quagga is the photographed female from London Zoo. The problem is also that the date of the specimen entering the museum's collection is uncertain, which makes it difficult to relate its arrival to



Figure 6.5 Taxidermy quagga at the National Museum of Scotland (Z.1879.35.1). Courtesy of National Museums Scotland.



the death of any of the quaggas known to have been held in one of Europe's zoos.

All we know is that the specimen came to the museum sometime before 1972 and there are three most probable dates when this might have happened – 1877, 1884 or 1921 – based on correspondence confirming the acquisition of a number of specimens. What makes things a little complicated is that prior to 1972, the museum's catalogue had no listing for a quagga, although the quagga skeleton was definitely already part of the collection by then, just without anyone (alive) knowing about it. Up until then the catalogue contained entries for two zebra specimens. But when zoologist Alan Gentry sought to research these two 'zebras' in the early 1970s, he discovered that one of them was in fact the skeleton of a donkey, while the other, which sadly was missing a number of bones, was 'our' quagga. Consequently, our knowledge of the quagga as a specimen only starts some 50 years ago, when it was identified as *Equus quagga* by Alan Gentry and thus elevated into the position of being one of only seven skeletons of this species known to exist worldwide. But when it arrived at UCL and where it came from (apart from being evidently of South African origin) remains a matter of speculation.

Given the discussion in previous chapters about conservation and 'arrested development' among museum objects, we could be excused for deciding to leave the quagga's biography there, as there is no evidence that it ever left the museum's collection after 1972. However, this would be missing out on a number of important milestones in the specimen's social life. First, in 1984, a century after the last known quagga died in Amsterdam Zoo, quaggas were the first extinct animal species to have their DNA partially sequenced (by scientists at UC Berkeley). This led to a debate on whether it was viable (and in fact desirable) to 'revive' extinct animals via DNA cloning, which in turn led to the initiation of the Quagga Project (The Quagga Project 2024) with this specific aim.

Then, some 27 years later, in 2011 the Grant Museum commissioned artist and model maker Tom Payne to make a small number of models of extinct animals to help museum visitors visualise what



the living animal would have looked like (Carnall 2011). Among them was a model of the quagga (as well as one of the dodo and the thylacine). The model (see Figure 6.6), complete with a Grant Museum catalogue accession number (LDUCZ-Z2622) like any other specimen in the museum, now stands next to the front legs of LDUCZ-Z581 (Figure 6.3).

The next important step in the quagga's biography came in 2014 when the Bone Idols project was launched at UCL, a collaboration between the Grant Museum and the Bartlett School of Architecture



Figure 6.6 The quagga model at the Grant Museum of Zoology, positioned near the legs of the quagga skeleton (LDUCZ-Z581). Courtesy of the Grant Museum of Zoology, UCL.

with the aim of protecting 39 of the museum's rarest and most significant skeletons (Kennedy 2014; UCL Culture 2015). In many ways the quagga was the project's star 'performer'. As mentioned above, when Alan Gentry identified the skeleton in the 1970s it was found to be missing several bones. More specifically, all the bones of its left hind leg and also its right shoulder blade were absent. From an interesting biographical perspective, there is a story that either the entire skeleton or just these bones were on loan to the Royal College of Surgeons in the 1940s, when the latter was bombed during the Second World War and the bones in question destroyed. Either way, the bones were either lost or destroyed over the course of the past century or so. The researchers on the Bone Idols project 3D laser scanned the skeleton's right hind leg and left shoulder blade, mirror imaged them digitally and then 3D printed the mirror-imaged bones so they could be used to replace the missing left leg and right shoulder and thus give the quagga skeleton a complete appearance again. However, the (substitute) bones were printed in black so that they could not be confused with the animal's cream-coloured 'real' bones (Figure 6.3). Consequently, now complete(d) again, the quagga could assume the mantle of one of the cornerstone specimens in the extinct and endangered species case, alongside the dodo, the thylacine but also the orangutan, the hawksbill turtle and several others. The case is near the entrance to the museum and so will greet visitors to the Grant Museum soon after entering.

FURTHER READING AND RESOURCES

The key texts relating to the social life of things and constructing object biographies have already been discussed at length in this chapter. The founding documents for this approach are Arjun Appadurai's (1986) *The Social Life of Things* and Igor Kopytoff's (1986) *The cultural biography of things*. Subsequently, Chris Gosden and Yvonne Marshall (1999) have taken this forward in *The cultural biography of objects*, and contributions in Adam Drazin and Susanne Küchler (2015) have extended this to *The Social Life of Materials*. These texts provide the essential overview required to understand

the theory behind writing object biographies and the practical steps in doing so. For some additional inspiration on how to write about individual objects in a biographical style, the ‘object lessons’ in *The Object Reader* (2009) by Fiona Candlin and Raiford Guins might be useful.

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7

The psychosocial dimension of objects

The key features of this chapter are:

- the relationship between objects/material culture, emotions and human wellbeing;
- the main theories and various ways in which material culture may have a positive (but in certain circumstances also a potential negative) impact on wellbeing;
- a range of practical examples of how objects and collections have been employed to support health and wellbeing (and the evidence for their effectiveness).

After reading this chapter, readers should be able to:

- critically discuss how objects and material culture may impact human wellbeing;
- display an understanding of how objects may be utilised in practice for activities geared towards supporting wellbeing;
- reflect on some of the main practical considerations in planning wellbeing-focused object-based activities, including evaluation of their effectiveness.

CONTEXTS AND DEFINITIONS

There appears to be a strong and relatively well-demonstrated relationship between engaging with objects and a sense of human wellbeing. This can be demonstrated by how well working with objects and collections can be related to the now widely adopted Five Ways to Wellbeing: ‘Take Notice’, ‘Keep Learning’, ‘Connect’, ‘Be Active’ and ‘Give’ (Aked et al. 2008). The first three of these, in particular, are strongly in line with the benefits of object engagement that we have already explored in previous chapters. From [Chapter 1](#) onwards, we have seen the importance of close observation and slow looking. The key pedagogical benefits of object encounters are at the heart of this book, the clue being in the title. For this chapter in particular, we will focus on the power of objects to connect people both with one another but also with their own memories, thoughts, ideas, beliefs and experiences. In combination, all of these may have a positive impact on people’s minds and perhaps even bodies.

This was already recognised by Florence Nightingale in the mid-1800s, when she wrote:

The effect in sickness of beautiful objects, of variety of objects, and especially of brilliancy of colour is hardly at all appreciated ... People say the effect is only on the mind. It is no such thing. The effect is on the body, too. Little as we know about the way in which we are affected by form, colour, by light, we do know this, that they have a physical effect. Variety of form and brilliancy of colour in the objects presented to patients are actual means of recovery.

(Nightingale 1860, 83)

What Nightingale describes is the combination of psychological and physiological impact of (beautiful and varied) objects on people, which has more recently come to be referred to as the (bio) psychosocial role of objects. As we start on the journey of exploring the ways in which objects may support health and wellbeing, it is important to begin with defining what we mean by health, wellbeing and the psychosocial impact of material culture. Therefore, the next section will provide a brief overview of some of the most important concepts that connect material culture with health and wellbeing.

Defining health and wellbeing

Upon its foundation in 1948, the World Health Organization (WHO) defined health as ‘a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity’ (WHO 2020, 1). Therefore, a good state of personal health implies a good level of wellbeing. In turn, the WHO defines wellbeing as ‘a positive state experienced by individuals and societies [which] encompasses quality of life and the ability of people and societies to contribute to the world with a sense of meaning and purpose’ (WHO 2021, 10). The New Economics Foundation has defined wellbeing slightly more simply as: ‘feeling good and functioning well’ (Aked et al. 2008, 1). In practice, wellbeing is most commonly understood as a psychological ‘state’, concerning positive mental health (UK Government 2014). In this context, and somewhat contradictory to the WHO definition above, while it may not be possible to be healthy without being well (that is, a good level of wellbeing), it is possible for a person not to have good (physical) health (for example, living with a chronic condition) but to have good wellbeing. Thus, in simple terms, while health could be primarily seen as a medically defined ‘status’, wellbeing also encompasses wider societal and psychological contexts, which brings us to the idea of psychosocial properties of objects.

What is the psychosocial role (of objects)?

The term ‘psychosocial’ describes the ‘influence of social factors on an individual’s mind or behaviour, and to the interrelation of behavioural and social factors’ (OED 2024). To this we may also add biological factors to result in a ‘biopsychosocial’ perspective, which has been defined as ‘involving the interaction of biological, psychological, and social factors, especially in medicine’ (OED 2023). This model, first advocated by Engel (1977), was proposed to offer an alternative to the strictly biomedical approaches to illness by also taking into account individuals’ experience and cultural, social and psychological factors. The obvious follow-on question is, what do the above definitions and models have to do with objects and material culture? Or slightly rephrased, in what way do objects influence the biological and/or social factors that impact a person’s body, mind and/or behaviour? More specifically, in this chapter we will explore to what extent objects can be utilised in supporting people’s health and wellbeing.

How do objects impact human wellbeing?

In a recent discussion, Helen Chatterjee and I (Chatterjee and Kador 2021) outlined some of the key theories underlying the relationship between OBL and wellbeing. First, there is a growing understanding that learning (both with or without objects) can support wellbeing, with mounting evidence demonstrating how learning new skills has a potentially significant impact on improving a person's health and wellbeing throughout their lifetime (for example, brain function, memory and cognition; Gow 2022). Providing learners with the personal space to engage with objects also enables them to draw on their own strengths and learning preferences. While visually focused learners are able to foreground their visual experience and impressions of an object, more haptic or kinaesthetically (that is, bodily) inclined learners have the opportunity to benefit from the tactile encounter through touching and feeling the object. Apart from the learning benefits that this enhanced accessibility brings – as we have already seen in Chapter 1 – object encounters can also allow people to connect more directly with their emotions and other aspects of their health and wellbeing. These specific wellbeing outcomes of engaging with objects in both learning and health settings represent the main focus of this chapter.

There are a number of theories that we can draw upon in understanding how engaging with objects may impact on people's emotions, and I will briefly summarise the most influential ones below. Chatterjee and Noble (2013) suggest that it might be the handling of 'cultural assets, within the safe space created during facilitated museum object-handling sessions, which leads to therapeutic outcomes' (Chatterjee and Noble 2013, 39). But what are the key elements of such object encounters that may result in these outcomes?

Multisensory engagements

In Chapter 1 we saw how being able to closely engage with an object or group of objects allows people to utilise the whole pallet of their senses rather than just focusing on sight and hearing, which tend to be foregrounded in contemporary life and culture. Instead, when encountering a physical object, it can be explored not just visually but also through touch. Moreover, the object and/or the environment within which it is encountered may have particular

smells and sounds that people engaging with the object can notice. In this sense, humans are able to apply their bodies more wholly to an object encounter, making this an embodied as well as sensual experience. Through such embodied and multisensory encounters, objects play a role in the development of self-awareness (Vygotsky 1978), as they help us orient ourselves in space and consequently contribute to our sense of identity. In this way, museum objects in particular can trigger memories, ideas and emotions in ways that other information-bearing materials do not (Chatterjee and Noble 2013). According to Dudley (2010), multisensory experiences with objects facilitate the formation of ideas and a process of meaning making.

Personal meaning making

Constructivist theory suggests that knowledge and meaning are generated through an interaction between lived experiences and ideas constructed in a person's mind (Piaget 1997). According to Baumeister, 'humans bring their own knowledge, experiences and values to objects and make meaning', with meaning being the 'mental representation of possible relationships among things, events, and relationships' (Baumeister 1991, 15). The possibility for learners to make their own meaning rather than being told what things are or should mean allows them to tap into their own experiences and connect their learning with things that are relevant to them. This can have a positive effect on memory recall, as they can embed their learning into their prior understanding of the world (even if it challenges this understanding). Froggett and Trustram (2014) and Chatterjee and Noble (2013) have found that cultural encounters with objects can 'trigger sensory, emotional and cognitive associations, memories and projections' (Chatterjee and Noble 2013, 41), all of which help people to make meaning of the world. Chatterjee et al. (2009) and Vogelpoel et al. (2013) identified meaning making as a key theme in a study that involved object handling by hospital patients. The handling sessions allowed patients to 'make meaning of their lives and to come to terms with their illnesses' and provided them with 'the opportunity to address deeper, often more philosophical questions about their life' (Chatterjee et al. 2009, 172; Chatterjee and Noble 2013, 42–43).

Research by Dodd et al. (2002) highlighted that object handling provided the space for participants to construct meaning by drawing on their past experiences, which in turn led to objects acting as a ‘catalyst for a range of cognitive and emotive processes’ and allowed them to ‘share their memories and emotions’ (Dodd et al. 2002, 37). This suggests that there is a strong link between physical object engagement and human emotions.

Emotional or affective touch

As we saw in [Chapter 1](#), a central strength of OBL is that it allows foregrounding of the sense of touch, which is frequently neglected in education and our strongly visually focused society more generally. Biophysical and neurobiological research distinguishes broadly between two types of touch: discriminative (sensing) and affective or emotional (feeling) touch (McGlone 2008, 55). Discriminative touch is largely guided by so-called low-threshold mechanoreceptors (LTMs), which are located on the inside of the hands (palms and fingers), as well as the soles of the feet. They provide humans with a ‘real-time perception of the tactile properties of objects’ and allow us ‘to handle objects efficiently without dropping or crushing them’ (McGlone 2008, 53–54). The affective touch system, ‘on the other hand, does not feed information in real-time to the conscious brain but provides off-line sub-conscious information to the emotional brain’ (McGlone 2008, 54). This happens ‘if the object being manipulated is explored by either touching against a hairy skin site – such as the cheek – or via some top-down process if the object is expected to have an emotional salience’ (McGlone 2008, 54). The difference between fast discriminative and slow affective touch can be easily tested by experiencing how different it feels when holding an object in both hands compared to slowly running it over the back of the hand, the arm or stroking your cheek with it.

The second type of touch has been found to tap directly into the emotional system, ‘with both negative (painful) and positive components [and to have] calming effects on autonomic and behavioural arousal, enhancing physiological as well as subjective well-being’ (Critchley 2008, 69). Consequently, ‘the process of object handling ... can imbue the object with a character, significance and emotional colour’ that is independent of functionality and that is ‘more satisfying, especially if the object is intrinsically pleasant to feel and hold’ (Critchley 2008, 69).

In short, as well as providing information about its shape, size, hardness, texture and temperature, touching an object, especially with the hairy skin – that is, anywhere other than the inside of the hands or soles of the feet – also directly communicates with the pleasure pathways in the human brain and ultimately connects to emotions. Therefore, the careful physical handling of objects can bring clear wellbeing benefits. However, this does not mean that the emotional and wellbeing impact of material culture is limited to objects that can be touched and handled.

Slow looking, haptic visuality and flow

In [Chapter 1 \(Box 1.4\)](#) we explored slowly looking at an object or artwork from a primarily intellectual perspective in order to establish how many more things we can notice through close, careful and slow observation (Tishman 2018). However, taking the pace out of our engagement with objects – even if we cannot physically touch them – can also impact our emotions and sense of wellbeing. Close observation and slow looking – perhaps accompanied by drawing – can allow us to completely immerse ourselves (possibly even to get lost) in the object or artwork and focus on the present moment. This in turn relates to the concept of the flow state that practitioners achieve when they are entirely absorbed in an activity, including creative/practical tasks, musical performance or physical exercise (Csíkszentmihályi 1988). Flow states have been proven to have a positive impact on human wellbeing, and similar results can be achieved through slow and careful engagement with an object, regardless of whether this engagement is purely visual or a combination of visual and tactile. Careful visual observation of objects can also provide a sense that we can ‘mentally’ touch them via a process of ‘haptic visuality’ (Marks 2000). While this concept was first coined in relation to film, it can easily be applied to careful looking at other two- and three-dimensional objects.

Moreover, employing the hands through drawing an object (see also [Chapter 1](#)) can also allow us to establish a more physical and emotional connection and aid the process of meaning making, especially in cases where the object itself cannot be touched.

All of the above have primarily considered the potential wellbeing impacts of object engagement from an individually focused perspective. However, similarly to the exercise in [Box 1.3](#), slow

looking lends itself readily to being done within a small group, which in turn changes the experience completely and brings us into the realm of interpersonal connection and empathy.

Multiple perspectives and multivocality

When there is a group of people all exploring the same item, such as a museum object or artwork, and then – after careful observation – they begin to share their individual insights, soon it will become apparent that there is much more to the item than any one member of the group has perceived (see [Box 7.1](#)). Everyone in the group will likely see something different in the object or artwork. When these insights are shared with the whole group, the individual group members will be able to see that there are multiple ways to view the item and different meanings they can draw from it.

BOX 7.1 EXERCISE: MULTI-PERSPECTIVE SLOW LOOKING

In a group of between three and eight (but five seems to be an ideal number), choose an object or artwork that is large enough to allow everyone to see it comfortably without impeding each other's view. Stand or sit in front of the item and individually observe it (in silence) for a number of minutes. It is good to set a minimum time period for this of at least three to five minutes of just looking (so ideally one person keeps an eye on the time), but if it feels right, you can of course continue for longer than this. After that time, allow the silence to break naturally and gradually initiate a conversation where everyone gets to share their impressions and key observations of the piece but also allowing the discussion to build on each other's insights. Ideally, let the discussion come to a natural end, but you should allow at least several minutes for each person in the group to share their perspective. Hopefully, by the end of this process everyone will have learned to see something in the object that they had not seen or noticed on their own and perhaps the group has been able to come up with a new shared understanding of the item (and possibly each other).

Therefore, objects do not only serve to transmit information, they also support multiple interpretations and perspectives, sometimes even radically different or contradictory ones. Especially in a diverse group of learners, from a variety of social, cultural, linguistic or other backgrounds, this provides an opportunity to explore multiple perspectives from within the group (Rowe 2002). Appreciating these differing views and ways of seeing can be an extremely rewarding social experience. In line with Vygotsky's theory of the social distribution of learning, learning with and from a group can also lead to deeper cognitive engagement, which in turn can make the process more rewarding for each individual learner (Vygotsky 1978).

The power of place: experiential learning spaces

The final item in this section relates to the wellbeing benefits that might be gained from the spaces within which objects are encountered. While the emphasis in this book is on engagement with individual objects and collections, these objects and collections are frequently housed in interesting spaces that in themselves can bring benefits for both learning and wellbeing. Museums, collections, libraries and archives, both those associated with educational institutions and those that are not, tend to have a clear learning focus and frequently the spaces within which their collections are housed are interesting and even inspiring in their own right. Consequently, they could be characterised as experiential learning spaces, as they are not formal classrooms, purpose built for traditional, didactic education, but these spaces facilitate learning through direct experiences with objects and materials (Kolb 1984; see also the section on experiential learning in Chapter 1). A recent study dedicated to exploring experiential spaces – the Student Wellbeing and Experiential Learning Spaces (SWELS) project – has demonstrated that learning activities organised in such spaces (as opposed to traditional classrooms) can have a positive effect on student wellbeing (Kador et al. 2021; Elsdon et al. 2023). When asked to compare the experiential and traditional/didactic spaces within which they have experienced learning, students from UCL strongly favoured the former and clearly expressed that activities

in such spaces can have a positive impact on their wellbeing (Kador et al. 2021).

For example, following a visit to the Wallace Collection – a national museum displaying the substantial art collections of the marquesses of Hertford and Sir Richard Wallace – in central London, one student expressed that they had been tired to start with and reluctant to participate but that once ‘I got to see the collection and all its coloured variety (and with the cheerful company that was with me) I left feeling more energetic and content than when I arrived’. This comment on the colours of the spaces within the Wallace Collection resonates interestingly with Florence Nightingale’s insights quoted at the start of this chapter.

In addition to the direct benefit of the museum space and its collection, the student also remarked on something else really important, which we have already touched on above. This is that collection spaces tend to facilitate different ways for learners to interact with one another, creating both the learning and emotional benefits that arise from social connection, as discussed by Vygotsky (1978). Beyond higher education, the topic of *Museums as Spaces for Wellbeing* has been the subject of a report by the National Alliance for Museums, Health and Wellbeing (now Culture Health and Wellbeing Alliance) (Desmarais et al. 2018), looking at the wellbeing offering of museums. This followed a survey of 261 museums across England that was published in the Alliance’s previous report (Lackoi et al. 2016). Morse (2021) looked at museums as forming part of a wider ‘landscape’ of social care. Increasingly, curators of cultural collections emphasise that the term curator comes from the Latin *curare*, meaning to take care of something. In the first instance, this is taken to relate to taking care of the collection but it could also be interpreted as taking care of the people who engage with the collection and the wider communities living in the vicinity of the museum or other institution the collection is housed in. Consequently, as highlighted in the two National Alliance for Museums, Health and Wellbeing reports, an ever-increasing number of museums are embracing their role in providing health and wellbeing support to their communities and are offering wellbeing-focused programmes and activities.

WELLBEING-FOCUSED OBL ACTIVITIES

Having discussed some of the elements that play a part in the wellbeing benefits of working with objects (and within museum spaces) from a largely theoretical perspective, it might be useful to illustrate this by reviewing a few practical applications and examples of ways in which object-based learning (OBL) has been employed to support people's health and wellbeing.

Object-based activities for wellbeing can be organised in a broad variety of settings and with a diverse range of participants. They have been used with hospital patients in various settings and contexts, adult and child refugees and asylum seekers, people living with dementia and older socially isolated adults or those living with aphasia (usually following a stroke), as well as war veterans (many of whom are living with physical and mental health conditions), to name but a few examples. Moreover, as we saw in [Chapter 3](#), many cultural institutions are actively engaging with the colonial history that frequently underpins their collections and are engaging with First Nations and Indigenous peoples in an effort to address this legacy (Kevin and Salmon 2021).

Given this broad variety of applications and settings for object-based work in the wellbeing arena – and these are just a small range of examples – it is difficult, and in fact unhelpful, to be prescriptive about how to plan, approach and conduct such activities. But when it comes to working on the intersection of culture, creativity and health, it is important to be mindful of the difference between clinical or therapeutic and non-clinical work.

Museopathy, objects and psychotherapy

It is vital to make some clear distinctions here. Most of the work described in this chapter does not involve formal therapy, as activities in a museum, heritage and collection context, even if they have a wellbeing focus, tend to be facilitated by object specialists and/or educators rather than a clinically trained and formally accredited therapist. Therefore, it is inappropriate to refer to these activities as being therapeutic. They are non-clinical object-based activities with a wellbeing focus, which may bring some health benefits to

participants. But this is different from the clinical relationship that exists between a patient/client and a therapist, and museum object engagement should not be seen as (a substitute for) medical treatment for health conditions.

Having said that, recently museum and object-based approaches have also been integrated into formal therapeutic settings, as summarised and discussed in two recent publications. Coles and Jury's (2020) *Art Therapy in Museums and Galleries* brings together a range of examples and case studies of the integration of objects, museums and gallery spaces into psychotherapy. Similarly, Cowan et al.'s (2020) *Museum Objects, Health and Healing* presents a range of case studies on the psychotherapeutic role of object interactions. These volumes, written by clinicians (and to some degree for clinicians), discuss work that takes place in formal therapeutic settings, although most of it involves museum objects and some of the encounters occur in a museum or gallery space rather than a clinical environment.

This is also the context in which the term 'museopathy' has been coined (Chatterjee et al. 2009). But as above, it is vital to be very clear when developing, running and promoting activities, whether they involve a formal therapeutic element – which means that they are overseen by a trained clinician – or whether they are non-clinical activities aimed at providing more general support of participants' health and wellbeing. The examples and suggestions below are largely drawn from the latter: non-clinical work using objects to support health and wellbeing.

While being mindful of the above caveat about the great diversity of settings within which such activities are conducted, it might nonetheless be useful to reflect on some of the practical aspects that need to be considered when designing and delivering wellbeing-focused activities with objects and collections, even though the range provided here can only be indicative rather than exhaustive.

Practical considerations for designing object-based wellbeing activities

As there are so many different contexts within which OBL may be employed in a wellbeing-focused way, it is difficult to provide a clear or definitive outline of considerations or steps to follow. Nevertheless, there are a few points that are always useful to reflect on when

planning an object-based activity in support of wellbeing. It is, however, important to stress that this list is far from exhaustive and so much of this work is context specific. Readers especially interested in working with objects in healthcare settings are advised to consult Ander et al.'s (2012) *Heritage in Health* guide.

Who are the participants and what are their needs?

This is the most important consideration, as clearly an object handling session for primary school children will have to be run very differently from one for older adults or hospital patients. It is important to consult with specialists who are familiar with the participant group and can help put in place the necessary safeguarding and/or access measures as appropriate, as well as advising on how to choose activities that are appropriate. The key question is: What is the ultimate goal or outcome of the session, and how can we remain focused on that throughout the design process?

Setting of the session

Will the session take place in a museum (or similar collection space) or in an educational, health or community setting? The venue will have a significant bearing on many of the other decisions and considerations to be taken. This will also influence the nature of the objects that can be used. It is vital to know and understand the space within which the activity takes place relatively well and to have a good sense about its limitations and potential accessibility issues.

Choosing the appropriate objects

It is important to carefully choose the most appropriate objects to use for the session. To some degree this may be pre-determined based on the setting of the session and what materials the facilitator has access to. It is always advisable to thoroughly discuss the choice of objects with the curator(s) of the collection(s) involved and, if relevant, a specialist or (medical) expert who has a thorough understanding of the needs and health situation of the participants. In order to maximise the opportunities for multisensory engagement, objects of appropriate size and weight that they can be readily handled by most people tend to be ideal. However, as discussed elsewhere, there are many activities that can be done even if objects cannot be touched and handled.

Number of objects and participants

In line with the previously discussed theories about the social and health benefits of learning together (in a social setting), object handling tends to work best in small groups. However, it can also be done on a one-to-one basis, for example in a healthcare setting (such as at a hospital patient's bedside). As highlighted in the example below (see [Box 7.3](#)), it tends to work well to offer participants a (limited) choice of objects, so that they have a small selection to choose from, rather than taking that choice away from them by pre-selecting objects for them. However, it is also important that participants are not overwhelmed with too much choice.

Setting up the object encounter

The format of how the objects are presented to participants, that is, their first encounter with the objects, is crucial for the development of the entire activity. Therefore, this needs to be planned very carefully and it pays to take time and think through the steps for how this will work. Most object handling tends to take place seated at a table; however, if this is not the case it is especially important to consider how both the objects and participants are physically supported throughout the activity. This includes accessibility concerns for participants and measures to make sure the objects are protected from falling or getting damaged.

Time and duration of the session

This will depend largely on the participants involved in the session, but it is not recommended to let the session run for more than one hour without a break. In many cases, an ideal time block for any given activity is 25 to 45 minutes, but this also depends on the size of the group, as things tend to take longer in larger groups. It is important to build in appropriate break times and space for participants to unwind, reflect and discuss things informally. Such breaks are key moments to check in and see if participants are finding any aspect of the activity challenging or distressing.

What are the most appropriate activities?

The examples throughout this chapter ([Boxes 7.2](#) and [7.3](#)) provide some suggestions of possible activities to be undertaken and some of the activities from other chapters (such as slow looking and 'blind object

date', see [Boxes 1.4](#) and [1.5](#)) could also be adapted for wellbeing-focused working. This of course also depends on whether this is a one-off activity with participants who have never worked with objects before or forms part of a series and/or includes participants with some prior experience of OBL. Usually, the main message is to keep the activities simple and easy to follow and to allow plenty of time and space for both individual exploration and informal group conversations. The key is that participants can focus on their encounters with the object(s) and do not have to concentrate overly on having to follow detailed sets of instructions. Consider how to maximise the benefits of the different ways in which objects support wellbeing, as discussed above, including multisensory engagement, emotional touch, personal meaning making, multivocal perspective and the space itself.

Ethical considerations

While there will be a specific emphasis on the ethical issues and implications arising from working with objects and specimens in education and beyond in [Chapter 10](#), this chapter more so than any other in the book relates to working in a participant-focused way. Moreover, some of these participant groups engaging in wellbeing activities may be deemed clinically or socially vulnerable. Therefore, it is important to include a specific focus on ethical conduct when working with objects in a participant-facing and wellbeing-focused way. Particular ethical issues arise if the activity takes place as part of a research project with data being gathered from participants for evaluation and/or research purposes (see below), but ethical conduct needs to be considered in any activity that involves working with living participants. It may also be appropriate, or even necessary, to conduct a risk assessment to ensure that all participants, facilitators and other people around are as safe as possible but also to have a plan of what to do if something goes wrong.

To summarise, it is vital to remind ourselves of the appropriate context in which object-based wellbeing activities take place and to be explicit about this context and the limitations and parameters this brings. This in turn feeds into a wider question around ethical conduct associated with working with participants, especially when there are also health or wellbeing considerations. As already mentioned above, there are particular legal (under data protection

legislation) and ethical responsibilities when collecting data from participants, such as evaluating the impact the activity is having.

Evaluate and measure the impact of object-based wellbeing activities

When people deliver wellbeing-focused OBL activities (often also referred to as ‘interventions’), they frequently want to assess their effectiveness to ensure that they are having the desired positive impact on participants. Consequently, a range of approaches, measures and evaluation tools have been developed and utilised to determine the outcomes of such interventions. Most of the tools adopted are widely available psychological wellbeing measures and include the Positive and Negative Affect Schedule (PANAS) (Watson and Clark 1994), the Warwick–Edinburgh Mental Well-being Scale (WEMWBS) (Tennant et al. 2007), the Visual Analogue Scale (VAS) (Wewers and Lowe 1990) and the Harvard Flourishing Scale (VanderWeele 2017). Each of these has been utilised with some success in museum, object handling and other cultural heritage contexts, yet none of them were specifically developed for working in such settings. For this reason, in 2012 colleagues at UCL developed a specific Museum Wellbeing Measures Toolkit, which combined the measures from a number of the above scales but importantly tried, tested and refined them with the help of 200 participants across 30 UK museums (Thomson and Chatterjee 2015). This resulted in specific measures for positive wellbeing – sometimes referred to as wellbeing umbrellas – for young people, older people and adults in general, as well as a separate ‘umbrella’ to record negative emotions (see Figure 7.1a–d). Since its development, this measure has been tested in many museums, collections and cultural heritage venues as well as other creative and natural settings. As of Spring 2025, the measure has been translated into seven languages, and given its successful use outside museum and heritage contexts (Thomson and Chatterjee 2022) it has recently been rebranded as the ‘Creativity Wellbeing Measure’.

In line with most of the other tools mentioned above, the UCL measure can be used to record self-reported wellbeing via a simple quantitative rating scale and some more in-depth qualitative comments from participants. Below (see Box 7.2) is a practical example of how it has been used in a range of object-focused activities in a museum setting.

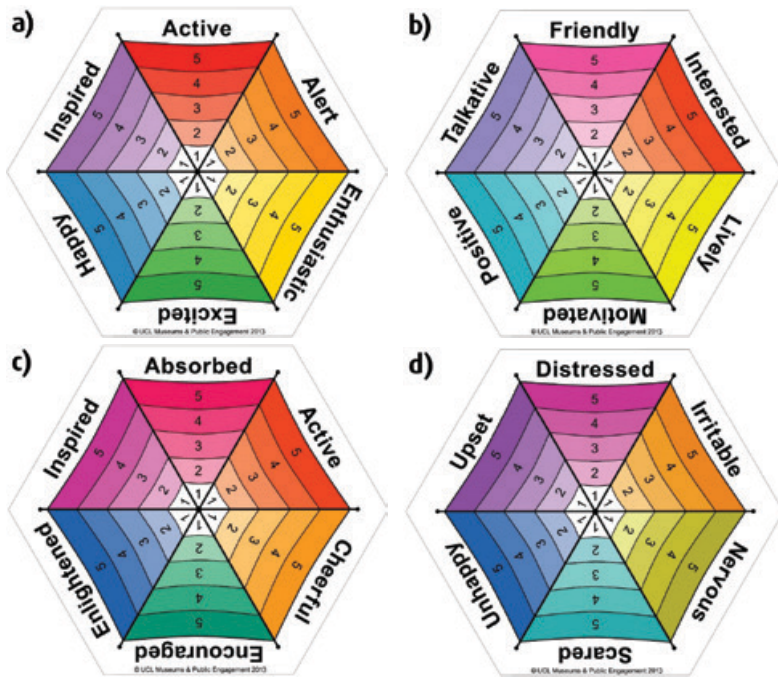


Figure 7.1 a) Generic positive wellbeing ‘umbrella’; b) positive wellbeing ‘umbrella’ for younger adults; c) positive wellbeing ‘umbrella’ for older adults; d) negative wellbeing ‘umbrella’ (Thomson and Chatterjee 2013).

BOX 7.2 USING THE UCL WELLBEING MEASURES TOOL IN A MUSEUM SETTING

Museums on Prescription was a three-year UK Arts and Humanities Research Council (AHRC) funded research project that took place between 2014 and 2017. Its aim was to investigate the value of museum encounters in social prescribing, a relatively recently developed idea for linking patients to sources of support in their community by connecting socially isolated, vulnerable older adults with a local museum.

The project involved a ten-week programme across seven museums in London and Kent (southeast England) with a total of 115



participants (Thomson et al. 2018). Each week the participants would visit their local museum for an approximately two-hour activity, including 'curator talks, behind-the-scenes tours, object handling and discussion, and arts activities inspired by the exhibits' (Thomson et al. 2018, 30). Using the UCL Wellbeing Measures tool (for older adults), the participants rated their positive wellbeing at the beginning and end of three sessions: the first, the last and one in the middle. This was accompanied by diaries (Museum Passports) that the participants completed with their week-to-week activities and in-depth semi-structured interviews for qualitative data collection.

The results showed a clear improvement, between pre- and post-session scores, in all six measures on the positive wellbeing umbrella for older adults (Figure 7.1c), which proved to be statistically robust and highly significant. There was also an overall improvement in both pre- and post-session wellbeing between the start, middle and end points of the programme. The interviews helped to explain some of these changes; for example, many participants commented on learning new information and being absorbed by it, and acquiring new skills, which could account for increases in the 'absorbed' and 'enlightened' items of the measure (Thomson et al. 2018).

The Museums on Prescription study highlights some of the different ways the Wellbeing Measures tool can be employed by comparing pre- and post-activity scores, as well as changes over time (for a longer-term programme) or a combination of the two.

Example projects: Heritage in Hospitals and Touching Heritage

Heritage in Hospitals and Touching Heritage were two UCL-led research projects exploring the potential of object handling as an enrichment activity for people in hospital and care settings, running between 2008 and 2012.

The projects involved researchers and volunteers taking boxes of museum objects to hospital patients and care home residents to examine the effects of object handling on the wellbeing of adults in care homes and hospital wards, including acute care, cancer care and surgical admission. For Heritage in Hospitals, the sessions were largely facilitated by hospital care staff (such as nurses), who were trained in leading the conversations and object handling activities with the

patients (Lanceley et al. 2011). For Touching Heritage, community and student volunteers were recruited and trained in ‘facilitation, engagement techniques and protocols for delivering heritage-based interventions in healthcare contexts’ (Vogelpoel et al. 2013, 111). As the participating hospital patients were frequently bedbound, the project team created a box for the objects to be transported to the hospital wards and a mat to facilitate handling at the patients’ bedsides.

The nurses/volunteers engaged in one-to-one object handling sessions at the patients’ bedside. These were built around a loan box, which usually contained six UCL museum objects from different collections, including archaeology, art, Egyptology, geology and natural history (Figure 7.2). These objects were laid out in front of the patient (on a mat), and they could examine and handle each of them before being invited to choose one as the focus of their session. Once the patient had made their choice and while continuing to handle the chosen object, the nurse or volunteer would initiate a conversation through a range of non-directive questions, such as:

- *Could you tell me why you have chosen this object?*
- *What do you think the object is?*
- *What does it feel like to handle the object?*
- *What does the object remind you of?*
- *Can you think of any experience that might relate to this object?*
- *How does the object make you feel and why does it make you feel like that?* (Lanceley et al. 2011, 812–813).

After each conversation, the session facilitator would meet with a researcher for a debriefing interview, with the researcher producing field notes based on this exchange. The findings highlighted how the objects gave patients a creative outlet to consider what their illness meant to them and gave them a ‘vocabulary to convey their feelings to themselves and others’ (Lanceley et al. 2011, 816). The case study in this chapter (see Box 7.3) is based on one of these nurse–patient conversations. In addition to these qualitative results, two separate wellbeing measures (PANAS and VAS) were used to assess to what degree the sessions resulted in a change in wellbeing. Like with the Museums on Prescription project (see Box 7.2), analysis of the pre- and post-session results showed significant increases in wellbeing and happiness among participants.



Figure 7.2 Heritage in Hospitals handling box. Courtesy of UCL Museums and Collections (photograph: L. Thomson).

BOX 7.3 CASE STUDY: THE PETRIE MUSEUM'S BASTET FIGURINE IN WELLBEING-FOCUSED WORK

UC30384 is a small (6.8 × 2.9 cm) bronze figurine from ancient Egypt, possibly dating to the 26th Dynasty (664–525 BCE), that is now on display in the Petrie Museum of Egyptian and Sudanese Archaeology at UCL (Figure 7.3). The museum catalogue entry states: ‘Bronze Bastet, cat-headed, human-bodied goddess standing. Ears long and fur-marked; embroidered robe; carrying sistrum, lion-headed aegis and basket. Feet lost’ (<https://collections.ucl.ac.uk/Details/collect/45218>). For ease of reference, the object will from now on be referred to as ‘Bastet’, which refers to an ancient Egyptian lioness or cat-headed goddess. In her right hand she is holding a rattle-like musical instrument known as a sistrum, while in her left arm she holds a shield or breastplate (known as an aegis) with a lion





Figure 7.3 Bastet figurine, bronze (LDUCE-UC30384). Courtesy of the Petrie Museum of Egyptian and Sudanese Archaeology, UCL.

head and on her left arm is a basket (with kittens inside). It is thought that she was a powerful protective figure, but also one known for her fertility. Bastet was one of the objects included in the Touching Heritage and Heritage in Hospitals projects and was by far the most popular item (that is, most frequently selected),



especially among female patients (Lanceley et al. 2011). However, none of the above details were disclosed to the participants. To illustrate the potential wellbeing impact that handling such an object in a healthcare context can have, I reproduce an extract from a conversation between Daphne (not her real name), a 62-year-old single woman who had recently undergone cancer surgery and chemotherapy, and a gynaecological cancer nurse specialist. Their conversation about the figurine has been transcribed in full by Lanceley et al. (2011, 815).

N: So you have chosen your object ... you're holding it.

D: I'm quite fascinated I am handling something that somebody made, you know, somebody handled this all those thousands of years ago. And now I have, so now, you know, across that strand of space and time it's survived, which is really remarkable.

N: Mmm, something so small.

D: Yes so small but to survive (turns the object over in her hands). Yes, there is a lot of detail ... it's the shape and the little kittens in her basket. I am fascinated by things feminine and that you know cultures that acknowledge women in some way the power ...

N: What is it about those things that interest you at this time?

D: The well, I didn't particularly have a happy childhood so I didn't particularly want children and so ... And now it's far too late (laughs). But it's never been an issue in my life so it's not really relevant.

N: You have had your surgery (hysterectomy) now? And have you been thinking about that?

D: That has passed me by in my life ... It's rather nice to think that maybe just a touch of my DNA and oil may just rub into her. What's she holding in her hand some kind of stick?

N: It's a sacred rattle.

D: Oh we will never know really why these things came about. I do think it's interesting that it's something in the female side.

N: What that you've chosen?

D: Yes, and although my fertility has never been an issue, it is interesting that unlike the sort of ... that the fear of women



and their fertility, this is as it were an expression of it. It's OK; it's a good thing.

N: I see.

D: It's absolutely wonderful the sheer beauty of it. I can take it home with me of course (laughs).

N: Oh erm I'm afraid that's not possible ... but I am wondering what the figure evokes for you at this time?

D: I suppose, in a strange way, a sense of timelessness and eternity, you know, how on earth, all the awful things that happened to me, um, time in itself is a very strange thing. I am sure whoever made this didn't know, obviously never thought to know, that this would be nestling in my hand, I suppose it makes me think perhaps that odd things I've done or people I've touched, in times to come I may have influenced them, or you know, nothing tangible like this to leave, but a legacy, nonetheless. I think well what's my life been about, not a lot, um maybe it has been. You know if I sounded my rattle.

N: What would that be like?

D: Yes, I think that's the other thing that attracted me, is the rattle. There's a 'don't mess with me' you know as well, a quirkiness that I like. I suppose, I don't know, perhaps the reflection that in various aspects of my life I have been a powerful woman like her I had influence in the Union - there's a bit of me there.

N: Mm so you identify directly with that?

D: Yeh her quirkiness; that's me. She's very proud and forthright, you know and I always 'flipping bag' you do when you work don't you, dragging around a 'flipping bag' so that's sort of like humorousness as well, because that's life you know? And I never go anywhere without a bag, so yes, there's somehow, the more I look at her, like at her eyes, they do seem to very all seeing. Yes, she knows what she's looking at. She doesn't evoke other people, spent all my flipping life thinking about other people, this is about me and her, you know!

N: What is it that's between you and her?

D: The attraction (of the object) was somebody who is powerful, has survived, holds a rattle, 'don't mess with me', you know, that



um and I want to be like that, I want to say leave me alone or I will smash you across the head, swing my handbag at you (laughs). She gives me that sense of possibility of strength, but it's a private thing.

The above extract illustrates how the patient manages to identify with the object and how the figure enables her to communicate very personal things about herself. These include aspects concerning her fertility and not having children and 'the awful things that have happened' to her. Lanceley et al. (2011) found that this object evoked particularly deep emotional responses from participants and a sense of timelessness, 'much more than perhaps could be evoked by a present-day object which may lend itself to people's childhoods and memories, but does not carry that depth' (Lanceley et al. 2011, 816). They comment on how heritage objects have the power to facilitate an emotional experience and reflection and to bypass the intellect and the 'censor', directly targeting the unconscious mind. In other words, they can help bridge the patients' external and internal worlds (Lanceley et al. 2011, 818), which relates directly to the quality of emotional touch discussed earlier in this chapter. It seems that, paradoxically, objects' physical (especially tactile) properties are central to enabling people to make connections with their internal emotional lives in a way that other (non-tactile) media cannot.

SUMMARY AND CONCLUSIONS

In earlier chapters, we explored how every aspect of human life is shot through with material objects, and to some degree it is fair to say that our species has co-evolved with material culture. Perhaps it should therefore not come as a surprise that material things have the capacity to evoke strong emotions in humans. As we have seen throughout this chapter, they can serve as a focus to store (and thus evoke) memories, allow people to identify with aspects that they think the object stands for (like Bastet being feminine and powerful but also quirky) and thus enable people to acknowledge and

express deeply held thoughts, feelings and emotions to themselves and others.

However, given this capacity of objects to ‘touch people’ there are a number of risks involved when working with participants in an object-based way. In particular, it is important that facilitators of handling sessions are prepared and equipped to deal with participants’ potentially strong emotional reactions, which can be both positive or negative, and to offer participants the necessary emotional support to deal with issues that the object session may bring up. The same may also be true for the effect of museums and gallery spaces, which can be both awe-inspiring but also overwhelming or even intimidating.

This was well expressed by a participant on the SWELS project, who commented that UCL’s museum spaces ‘have the power to transform individuals and they do, but they also have the power to trigger and overstimulate some people ...we’ve got to meet people where they are and build these bridges’ (Elsden et al. 2023, 601). There is therefore a need for workshop facilitators to repeatedly check in and allow plenty of time for participants to process, vent and decompress.

FURTHER READING AND RESOURCES

As the potential of curated heritage collections and the spaces that house them to support human health and wellbeing is being increasingly realised, there has been a rapid proliferation of literature on this topic. While written more than ten years ago, Helen Chatterjee and Guy Noble’s (2013) *Museums, Health and Well-Being* still presents a useful introduction to the topic, with the contributions in the book by Thomas Kador and Helen Chatterjee (2021) providing more recent discussions and examples of working with object and material culture from a wellbeing perspective in a range of settings. For readers interested in a more therapeutic approach to working with objects and in museums, Ali Coles and Helen Jury’s (2020) *Art Therapy in Museums and Galleries* and Brenda Cowan and colleagues’ (2020) *Museum Objects, Health and Healing* present a collection of chapters offering a range of contributions discussing the relationship between psychotherapy, museums and their collections.

There are also a range of online resources available both documenting wellbeing work taking place in museums and offering case studies, toolkits and resources for anyone interested in developing museum- or object-based wellbeing activities. For example, the UK's Culture, Health and Wellbeing alliance has a helpful resources section that provides guidance on funding, evaluation, case studies and toolkits: <https://www.culturehealthandwellbeing.org/>. Similarly, the UCL Wellbeing Measures Toolkit, along with printable templates, guidance on how to use it and supporting publications, can be downloaded from the UCL website: <https://www.ucl.ac.uk/biosciences/culture-nature-health-research/ucl-creative-wellbeing-measures>.

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PART III

EXHIBITING AND COMMUNICATING WITH OBJECTS

The previous two sections primarily focused on various approaches to objects, the collections they may be part of and in turn how we can understand the world through objects and material culture. [Part I](#) saw a sketching out of these contexts and parameters, while [Part II](#) focused largely on one object at the time, albeit in relation to other objects where relevant.

For the third and final part of this book we will shift perspective somewhat and consider the implications and opportunities when working with a range of objects in combination, especially by bringing them purposefully together. Most often this occurs when curating (that is, putting together) and exhibiting objects. More broadly speaking, this part of the book explores the potential of objects and collections for ‘actively’ communicating ideas and how objects can serve as conduits to facilitate communication. We will explore this from a range of angles while always seeking to foreground the learning potential of working with objects in these ways. In particular, in [Chapter 8](#), we will consider some general principles relating to communicating with objects through exhibitions, explore the importance of understanding audiences or the people we wish to communicate with and discuss a number of different communication strategies that we might employ. [Chapter 9](#) will consider the specific opportunities and challenges for object engagement that the ‘digital revolution’ of the last two or three decades has brought about (and will continue to bring about). Finally, [Chapter 10](#) will encourage readers to think about the key ethical implications of working with – and especially publicly displaying of – different types of objects. The chapter will have a dual focus: first, we will consider the general ethical aspects in relation to exhibition development and design; and second, we will explore the specific case of working with human remains, which is a fundamental concern within ethical collection and exhibition practice.

8

Communicating through exhibitions

The key features of this chapter are:

- understanding exhibition audiences;
- finding the most effective way to communicate with a target audience;
- considering different forms of communication (that is, visual, text-based, digital and aural) in a range of settings and scenarios (including practical examples);
- deploying exhibitions of objects as a tool for learning.

After reading this chapter, readers should be able to:

- critically evaluate and identify who the target audience for a given exhibition is and how best to communicate with it;
- understand the different levels of information that may support an exhibition;
- experiment with different types and formats of writing to communicate the most important information to the (chosen) audience.

When considering curating an exhibition, that is, selecting objects for public display – usually under a connecting theme – there are a number of broad areas to consider. These include the choice of objects, the aims of the exhibition, the narrative (what story one wishes to tell), the exhibition design and the textual and other means to convey information beyond the objects themselves, usually referred to as interpretation. Finally, and perhaps most importantly, we need to consider the audience who we hope will view the exhibitions. This chapter will briefly review each of these and related aspects of exhibition planning, with the main emphasis being on understanding who the core audiences for an exhibition might be and, based on this, how best to communicate with them. It needs to be stressed that the discussion will focus on exhibition making as a pedagogical tool. Consequently, space only permits a brief introduction to the key topics involved in exhibition planning and development, while many aspects such as the administrative processes (including conservators' condition reports and object loans) or the layout and design of the physical exhibition space will not be considered. However, the further reading and resources section contains some suggestions for readers interested in the more intricate aspects of exhibition design and management. The primary objective of this chapter is to reflect on the most important strategies for utilising objects to communicate information and tell compelling stories or raise important questions. It is also important to bear in mind that this comes within the wider context of a focus on object-based learning (OBL). Therefore, the chapter is primarily written with learners, students and educators in mind who wish to utilise exhibitions in pedagogical settings rather than for people – such as museums professionals – interested in designing fully public exhibitions. Having said that, the educational literature demonstrates that producing real-world and (at least nominally) public-facing outputs can provide extremely rich learning experiences (Carnell and Fung 2017; Fung 2017).

KEY CONSIDERATIONS WHEN PLANNING AN EXHIBITION

As with several other chapters in this book, we will start by defining some of the key terms to be discussed. Following Dean (1997), the term 'exhibition' is employed here to describe a comprehensive

presentation of collections and supporting information to the public, which generally utilises ‘objects, or their representations, as the primary channels of communication’ (Dean 1997, 3). An exhibition consists of individual exhibits, which comprise a ‘localised grouping of objects and interpretative materials that form a cohesive unit’ within the wider exhibition (Dean 1997, 3). The word ‘display’ describes a presentation of objects for public view with or without added interpretation. Therefore, a display could form part of a wider exhibition (such as one case, section or area) or be a stand-alone feature.

When starting out in the process of planning an exhibition – especially in an educational context – it might be useful to have a sense of what kind of exhibition it should be, and there are a number of frameworks to start from. For example, Dean distinguishes exhibitions as being either object or concept oriented, meaning that either the objects or the messages predominate (Figure 8.1).

However, in practice, most exhibitions are probably located somewhere between the two extremes of either a ‘pure’ object display – without any interpretation – on the far left of Figure 8.1, or a ‘pure’ information display – in which objects play a minimal role or none at all – on the right (Dean 1997, 4). We will return to some of these considerations later in the chapter when discussing the choices for exhibition design. However, given the overall purpose and outlook of this book, the focus will obviously be on exhibitions and displays centring on physical objects.

The types of objects and the collections they form part of may also play a role in informing the approach to exhibiting them, as there are some well-established conventions. Miller suggests that:

[There] are essentially three types of museums: art, science, and history. Art museum collections celebrate creative communications expressed visually. History museums hold the proof of people, places, events, etc. that happened years ago or yesterday. Science museums explore natural and scientific realms through objects relative to biology, chemistry, geology, physics, astronomy, the environment, and so on.
(Miller 2020, 25)

While we do not have to agree entirely with Miller’s, arguably somewhat simplistic, tripartite division, it may hold some value in

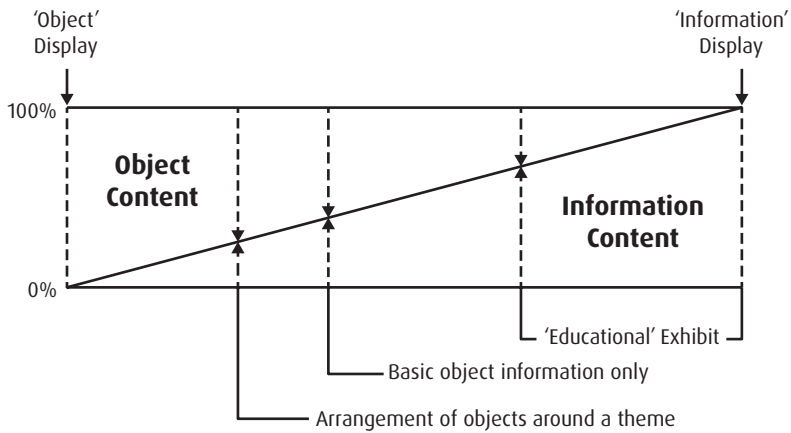


Figure 8.1 The Exhibit Content Scale from Dean 1997, 4, based on Verhaar and Meeter’s Project Model Exhibition (1989) (redrawn by T. Kador).

considering the possible ways in which to structure an exhibition. In the most straightforward scenario, the planned exhibition falls (primarily) under one of these three categories. Hence, if the exhibition will primarily focus on artworks, there is traditionally a different way of presenting and communicating this material compared to an assemblage of historical, archaeological or ethnographic objects, which in turn tend to be presented differently from scientific specimens (such as those from natural history, for example). Any trip to a fine art gallery or an archaeological or science museum will make these different conventions of exhibiting readily apparent. Is the focus primarily on the skills or works of individual artists, on understanding cultures, places and/or time periods, or scientific concepts (such as evolution)? However, let’s assume that your exhibition will include objects, artworks and specimens from across these three categories – bringing together works of art with artefacts and specimens – what would then be the most appropriate way of presenting them?

Returning to Miller might be helpful here, as he states that how the different types of museums ‘achieve their purposes are the same regardless of what they collect, own, and care for. Their content

is proof for a subject the museum exists to study, preserve, and explain' (Miller 2020, 25). In this part of the book, we are primarily concerned with the last of these three functions, that of explaining. However, in line with a more constructivist reading of the world, I would suggest that *understand* – or more appropriately, *facilitate understanding* – might be a better aim than merely explaining, as the latter suggests that there is an objective truth that the curator knows and wishes to share. The primary aim could be broader still, aiming to engender 'interest and curiosity that will develop into long-term personal growth and enrichment' (Dean 1997, 6). But regardless of whether we are aiming to explain something, help people understand it for themselves or to develop curiosity and personal growth, there tends to be some idea of a story the exhibition is meant to tell or a narrative it wishes to reveal. Very often this story is built around a central theme or a relatively small range of related topics. In an art museum context this theme could be the life and times of a certain artist, as seen through their work, but we may also wish to include some historical artefacts that help tell the story. In a natural history setting, on the other hand, the story might be about crucially endangered animals and how we might be able to protect them or about a certain type of habitat and its wildlife (like the African savannah or the Arctic Circle). But again, in order to support the narrative, it might be useful to include photographs, videos and other works of art rather than just solely focusing on animal specimens. In either of these cases, and in most other exhibition contexts, the artworks, artefacts and specimens will be further supported by different types of information to help develop the desired narrative. This is generally referred to as interpretation, which describes the 'act or process of explaining or clarifying, translating or presenting a personal understanding about a subject or object' (Dean 1997, 6). Returning to [Figure 8.1](#) once more, a balance needs to be struck between the objects (or specimens) 'speaking for themselves' and the message being conveyed by other means and thus the significant role interpretation plays within an exhibition. But before we can explore the different exhibition design options and the use of interpretation within them, we must consider the audiences that we wish to communicate with through the exhibition.

UNDERSTANDING AUDIENCES

Understanding the main audience for an exhibition is vital, as how we communicate with them through objects and interpretation will vary greatly depending on who they are, what they are interested in and what they already know. There is an entire branch within museum studies dedicated to audience research and we will only be able to scratch the surface of this here. For the purpose of this chapter, the main aim is to sufficiently understand the prospective audience for an exhibition in order to find the most effective ways to engage with it. This has to start by considering how audiences are conceptualised. However, great care must be taken when categorising people into audience groups or types, as there is a fine line between creating a useful understanding of who the most likely beneficiaries of an exhibition are on the one hand and stereotyping or labelling people in an unhelpful way on the other. In the UK, there is an organisation called the Audience Agency that helps museums to optimise their audience communication, which invariably starts by understanding as much as possible about this audience and in turn requires some research.

Researching your audience

Based on several years of research, the Audience Agency has developed a useful guide for understanding different types of audiences, which it calls the ‘audience spectrum’: ‘Audience spectrum segments the whole UK population by their attitudes towards culture, and by what they like to see and do.’ According to the Audience Agency (2024), it is ‘the most accurate tool the sector has ever had to help target audiences and include a wider public’. This tool divides the UK population into a so-called audience spectrum consisting of ten ‘culturally active segments’ with a further 20 sub-segments (see [Table 8.1](#)) to help cultural organisations better understand and cater to their core audience.

Each of these ten segments is supported by a six-page motivational guide, highlighting that particular audience group’s main motivations and values, as well as how best to reach and support them (Audience Agency 2023). It needs to be added that the Audience Spectrum has been designed with cultural organisations – including, but not











| | Audience Name | Description |
|---|---------------------------------|--|
|  | Metroculturals | Prosperous, liberal, highly-educated urbanites, passionately interested in a very wide cultural spectrum, concentrated in large metropolitan areas, particularly London. |
|  | Comuterland Culturebuffs | Affluent, professional, keen and well-informed people who are regularly and highly engaged, connoisseurs in the artforms they choose. |
|  | Experience Seekers | Highly active, younger and social career-minded graduates, they are frequent and eclectic arts engagers. |
|  | Dormitory Dependables | Regular attenders living in suburbs and smaller towns, interested in heritage activities and mainstream arts and less likely to be attracted by contemporary offerings. |
|  | Trips & Treats | Mainstream arts and popular culture fans influenced by children, family and friends. |
|  | Home & Heritage | Rural and small town pensioners attracted to daytime activities and historical content. |
|  | Up Our Street | Sociable retirees looking for inexpensive, mainstream, local leisure opportunities |
|  | Frontline Families | Frugal, semi-urban renting families, light on arts and culture but heavy on community. |
|  | Kaleidoscope Creativity | Mixed-age and many working in public or service sectors, often preferring free and local community festivals and art to engaging with public cultural institutions. |
|  | Supported Communities | Many people in these groups live in social housing and may rely on financial support or experience multiple types of deprivation or poor health. |

Table 8.1 The Audience Agency's Audience Spectrum (Audience Agency 2023)

limited to, museums – in mind whose existence frequently depends on attracting the most suitable core audience. However, while reflecting on these audience segments is certainly a useful exercise, there is likely to be less urgency to maximise the offering for a very specific audience type when designing a one-off exhibition. In other words, when planning a smaller exhibition – especially on a limited budget – it is important to strike a balance between how much time and resources you invest in audience research versus exhibition design and development.

Bitgood (2014, 67) provides a much simpler distinction of audience types into three broad categories: ‘discoverers, explorers and studiers’. Discoverers are assumed to spend the least amount of time with exhibits, prefer hands-on exhibits and respond best to high-interest material. Explorers experience exhibits in a more involved manner and look more closely at items that interest them. Studiers are highly motivated learners, who commit the necessary time and effort to absorb information. They read labels, look closely at objects and discuss exhibits with other group members (Bitgood 2014, 67–68). However, in contrast to the Audience Agency’s very detailed audience segments, this tripartite division does not concern itself with the likely demographics or educational or social background of visitors. Hence, if working with the simpler division, it is important to nonetheless find a way to include these dimensions. The minimum range of questions any exhibition curator should try to answer about their target audience is the following: What is their most likely demographic profile and educational and cultural background? Consequently, what are they most likely interested in seeing, learning and experiencing? What are they likely to already know? The answers to these questions will invariably have a bearing on the choice of objects, how they are displayed and what interpretation is provided to support them. Support measures, both as part of and beyond interpretation, are also especially relevant for visitors who have particular access requirements. The exercise in [Box 8.1](#) provides an opportunity to explore how different visitor profiles and access requirements affect the way we communicate with objects.

BOX 8.1 EXERCISE: COMMUNICATING WITH EXHIBITION AUDIENCES

Take a good look at the image of the object depicted in [Figure 8.2](#) (or choose your own object) and then try to briefly describe this object in no more than 200 words in ways suitable for any two of the following individuals:

a) a postgraduate university student with a background in a relevant discipline; b) an international tourist with a general interest in culture and history; c) a six-year-old primary school pupil; d) a visually impaired adult who lives locally.



Figure 8.2 A plaster cast of an alleged Yeti footprint, taken in the Himalayas in the 1950s. Part of the Napier collection. Courtesy of the UCL Biological Anthropology Collection (photograph: M. Hinkley).

Audiences and accessibility

Accessibility should always be at the forefront when considering audience engagement with an exhibition. This can link to demographics, as the ages and educational backgrounds of visitors will invariably have a bearing on their perspectives of an exhibition. But it extends far beyond age and includes, among other factors, questions of gender, ethnicity, class/social status, cognitive ability and disability (including learning disabilities and physical impairments). It might seem a tall order to consider all of these aspects when conceptualising the audience for an exhibition, but the general rule here is that the more accessible an exhibition is – in all respects – the more effective and enjoyable it is for visitors of all backgrounds (Greenglass 1986; Sandell et al. 2010; Bitgood 2014, 65). Presumably, most exhibition creators wish to see as broad and diverse an audience visiting their display as possible, but as discussed above, having a relatively clear idea of whom it is most likely to appeal to is imperative for making vital curatorial and design decisions. We have already discussed some of the underlying injustices and inequalities that museums have traditionally perpetuated, especially in [Chapter 3](#). But regarding the audience accessibility of an exhibition, it might be useful to discuss questions of access for disabled people somewhat further.

Janice Majewski and Lonnie Bunch (1998, 156) describe three distinct tiers of access that museums should address to meet the needs of disabled visitors: access to the physical environment, access to content, and access to history and culture. While acknowledging that physical access to museum and exhibition spaces remains a vital issue, it is beyond the scope of this book to discuss the physical structural adjustments that curators and exhibition designers should consider in order to make their spaces accessible to wheelchair users or visually impaired people. However, the latter two tiers, concerning access to content as well as history and culture, are directly relevant to the discussion concerning museum audiences and exhibition planning here.

Majewski and Bunch (1998, 156) argue that ‘Accessibility to content means accessibility to the written word, the objects, the media presentations, and the interactives’, while Smith et al. (2012) highlight that many institutions ‘have consistently overlooked this issue’. But they also note that there is ‘growing awareness in museums

that providing a variety of ways for visitors to access information can facilitate a range of learning experiences and opportunities as well as improve access for more people' (Smith et al. 2012, 64). This is especially the case in relation to visitors with visual and hearing impairments, for whom audio description, alternative text formats and similar are increasingly available, and this is something anyone designing an exhibition should consider.

Majewski and Bunch (1998) contend that the third tier concerning the representation of disabled people and the inclusion of disability-related narratives within exhibitions has been almost entirely overlooked (see also Sandell et al. 2010). They contrast this with increasing 'efforts to developing exhibitions exploring issues related to other minority and excluded groups' (Smith et al. 2012, 65). There are, however, a range of recent initiatives that involve participatory practices in exhibition design to help empower disabled people to actively participate in presenting their own histories and experiences (Dodd et al. 2008). One such initiative that tackles the intersectional issues of disability with other aspects of marginalisation are the Purple Stars. They bring together a group of diverse 'people with and without learning disabilities and differences to transform museum experiences and make them really inclusive and fun' (Purple Stars n.d.). Foregrounding a range of multisensory engagements to appeal to people's various learning strengths and preferences, they operate under the motto '*nothing about us without us*'. One of their projects involved working in partnership with the Museum of London to develop a sensory display of oral histories titled *London is the Place for me* (Purple Stars 2021). The need for co-produced and participatory approaches to exhibition development and design is not limited to including people with disabilities and learning differences but also those of other minoritised backgrounds; this is especially the case if any of the exhibits and/or narratives engage with questions of power relations, (in)justice and marginalisation. The difference in approaches to curation, ranging from a 'top-down', expert-driven to a more co-produced, socially engaged one, relates directly to the philosophical stance a museum (or exhibition) takes. This is primarily due to how the museum regards its audiences and the institution's role in engaging with them. The next section will review some of the main ways in which engaging with audiences has been conceived.

Models for audience engagement

The models for audience engagement we subscribe to cut very closely to the heart of the matter regarding the main function or purpose of museums and exhibitions. When outlining Steven Miller's take on the different types of museums at the beginning of this chapter, readers may have spotted a slight divergence of perspectives between his suggestion that all museums are meant to 'explain' and my contention that it would be better if they 'facilitated understanding' instead. While it may seem subtle, this distinction boils down to two relatively fundamental approaches for how we conceive of audiences and the public more generally. I will briefly discuss the key parameters of each of them here.

The deficit model

This more traditional approach to museum and exhibition communication has its origins in the public understanding of science during the second half of the twentieth century (Royal Society 1985; Merriman 2004a; Bodmer 2010). It starts from an implicit assumption that casts 'the public as deficient and misguided in its present "lack of uptake" of science' (Macdonald 2002, 49). These failings had to be 'repaired' and consequently, it is the role of museums, exhibitions and other forms of science communication to address these knowledge deficits by getting more scientific (or expert) knowledge across the boundary from a specialist world to the poorly informed population. According to this approach, the onus is on the expert community (that is, scientists, researchers, curators) to learn to communicate in a clearer, more interesting and engaging way with the public in lay terms (Wynne 1994), by means of exhibitions and other (popular) media. This implies a simple one-way flow of information from the expert(s) to the 'lay' public. Merriman (2004b, 6) has suggested that that this process should not be a 'matter of instilling appropriate facts' but equipping people with the ability to evaluate different (and potentially competing) forms of evidence and therefore helping them to achieve a position to draw their own conclusions. This thus allows for the space to disagree and hold different (thought equally informed) opinions on a topic, which in essence results in a multiple perspectives approach.

Multiple perspectives model

Towards the end of [Chapter 1](#), we considered the influence of constructivist thinking in the world of museums and OBL and in fact [Part II](#) of this book is essentially entirely dedicated to learners being able to construct their own meanings from working with objects. The multiple perspectives model of museum interpretation subscribes to the same conceptual framework: that is, individuals are continuously constructing and reconstructing meanings as they respond to and experience the world around them. This therefore makes any claims to absolute and permanent truths untenable. Moreover, a central question concerning public communication is what the main purpose of it should be. Advocates of a constructivist, multiple perspectives model advocate for the need to stop taking knowledge to the public for knowledge's sake (or for the sake of one particular discipline) and 'start doing it to meet the general public's educational, social and cultural needs' (Smardz 1997, 103). Put differently, the purpose of the multiple perspectives model is 'to encourage self-realisation, to enrich people's lives and stimulate reflection and creativity' (Merriman 2004b, 7). This is very much in line with the approach to personal meaning making inherent in OBL that we have already explored in earlier chapters.

Perhaps it is also worth stating clearly that this is not the same as relativism, which adopts a perspective that any opinion is as valid as any other, especially when it comes to the perspectives represented by exhibition curators. Time and again, research has revealed that large sections of the population place great trust in museums to provide 'accurate' information. This trust is both extremely valuable and very precious. Hence, providing interpretations for an exhibition requires a careful balancing act between giving space for multiple interpretations, and perhaps even disagreements, while still solidly grounding any information provided in verifiable evidence. Therefore, it is essential that all items to be put on display are researched as thoroughly as possible in order to avoid propagating inaccurate information and to be open and transparent regarding the limits of available information. We will return to this question of accuracy and honesty in [Chapter 10](#) when discussing the ethical considerations involved in creating an exhibition. Having hopefully

acquired a more nuanced understanding of potential target audiences based on the different models of approaching the public reviewed here, we can now move on to discussing the most important steps and considerations when designing exhibits to help us communicate effectively with our chosen target audience.

EXHIBITION DESIGN AND STRUCTURE

There are countless different approaches and large swathes of literature on exhibition design. Therefore, it would go beyond the scope of this book to try and do justice to this substantial body of material. Readers who want to delve deeper into the realm of exhibition design are advised to consult one or several of the texts suggested in the further reading and resources section, such as Bitgood (2016), Dean (1997), Gali (2015) and George (2015). Having said that, when considering how best to engage the public with an exhibition, it is essential to have at least considered a variety of design options. We will not be concerned here with the aspects that may traditionally be considered design elements, such as the layout of displays, the placement of objects or the use of light and colour. Instead, the focus in this section will be on the broad design choices an exhibition curator or designer has available to them in order to most effectively communicate their intended aims with their target audience. These choices can be informed by a range of considerations, such as the nature of the venue (for example, museum, gallery, cultural centre) where the exhibition is set to take place, the desired core audience and other questions of style, taste and conceptual framework. In simple terms, most of this can be boiled down to the curator's 'basic philosophy of design' (Bitgood 2014, 43; 2016).

Approaches to designing exhibitions

Stephen Bitgood identifies seven different, broad approaches to exhibition design, which are worth reproducing here in full:

1. **The subject matter approach:** the major emphasis is on presenting complete and accurate information, with less

concern for how the message will be received by the exhibit's audience or for the aesthetic appeal of the presentation.

2. **The aesthetic approach:** the major concern is in the aesthetic appeal of the presentation. Aesthetics take precedence over the message or the impact on audiences other than the artistic community.
3. **The hedonistic approach:** the major concern is that the audience will have a good time. Enjoyment (entertainment) is the primary emphasis.
4. **The realistic approach:** the major focus is on creating a simulated, realistic experience. For example, an exhibit may attempt to produce a simulated experience of a natural habitat or a ride in a spaceship.
5. **The hands-on approach:** exhibits are designed with the assumption that hands-on activities are inherently more effective than exhibits that require passive viewing.
6. **The social facilitation approach:** when adopting this strategy, exhibit designers attempt to produce exhibits that allow for or stimulate social interaction among visitor group members.
7. **The individual-difference approach:** following this approach, designers attempt to develop exhibits for audiences who differ in one or more characteristic. Audiences may differ in aspects such as learning preferences, learning style, cognitive ability, age, educational level, interest level and reasoning skill (Bitgood 2014, 29–31).

It will be readily apparent how some of these approaches might lend themselves better to one or other of the Audience Agency's audience groups (see [Figure 8.1](#)). However, it is also important that curators and exhibition designers generally combine a number of these approaches, although perhaps not always purposefully or explicitly. In fact, in most cases it is essential to combine some of the main advantages that a number of these approaches bring with them, thereby having a varied exhibition that appeals to a range of different visitors and helps maintain their focus and interest for longer. The key question, then, concerns identifying priorities and therefore where the balance – for

example, between providing accurate information, visually pleasing displays and hands-on activities – should lie. This issue of balance can lead to potential conflicts when working as part of an exhibition team, with several contributors having to jointly make decisions about the design. In this situation, it is especially important that there is clarity and transparency about the core vision informing the exhibition, including the overall and specific aims and objectives as well as the target audience. However, being clear about these central questions is also important when most of the decisions are made by a single person. Therefore, the exercise in [Box 8.2](#) can be adapted to suit the individual(s) or groups(s) involved in an exhibition project.

BOX 8.2 EXERCISE: DEVELOPING A DESIGN BRIEF FOR AN EXHIBITION

Imagine that you are part of a team charged with developing an exhibition. First, decide on a theme for this exhibition. Perhaps you are planning to curate a physical or virtual exhibition, in which case working with the theme here would be a great way to get you started. But if you are really struggling with picking a theme, here is a short list to either choose directly from or be inspired by:

- Social inequality through the ages
- Human-animal communication
- Dissent in the contemporary and ancient world
- Disgust and revulsion.

Now, having selected a theme, please follow Steps 1 and 2:

Step 1

Answer each of the below questions individually for yourself. If you are part of a team, then each team member should do the same and then bring their individual perspectives together in a



discussion, with the aim of answering the questions again in a way that represents each team member's perspective as best as possible.

1. What are the exhibition's main aims and objectives? Ideally, identify one or two broad aims and four to six more specific objectives.
2. Who is the intended audience? Try and be as specific as possible here. It is possible to have more than one core audience, but if their interests and prior knowledge are likely to be very different, this will make the task of catering to all of them much more difficult.
3. Reflect briefly on your own core (philosophical) outlook and values that will inform your design, and identify a number of potential biases that your perspective may bring.

Step 2

Reflect on which of Stephen Bitgood's seven approaches to design listed above (individually or in combination) are most likely to appeal to the target audience while ensuring that the exhibition meets its aims and objectives.

If you are working on your own, complete this process by providing a brief justification for the chosen approach(es).

If you are part of a curatorial and/or design team, facilitate a discussion on the above and come to a joint decision regarding the most suitable exhibition design options. Summarise the discussion's outcome into a clear justification of the chosen design approach.

Having arrived at a relatively clear understating of the aims and objectives of a planned exhibition as well as who the core audience is and what their likely interests, expectations and needs are, it is time to think about structuring the exhibition. The next step in this process is to decide on the narrative itself, that is, what is the story that you (the curator/curatorial team) would like to tell, both with the exhibition in general and each individual object/display within it?

Developing the narrative for an exhibition

‘At the beginning of an exhibition idea comes the need to determine how to communicate its message: the interpretive strategy. This is the start of the storyline process’ (Dean 1997, 103).

As with exhibition design, there are countless possible approaches to telling a story through exhibited objects. However, before being able to consider the specific ways of telling this story, the key motivation for telling it – the visitors’ take-away message – needs to be clear in the minds of the people developing the exhibition. We have already encountered two brief examples above of how an exhibition theme may be approached in art and natural history museum contexts, respectively. In these cases, there tends to be a very clearly defined and relatively easy-to-follow structure that makes these exhibitions readily ‘legible’ to frequent visitors of art galleries or science museums. The way the information is communicated through a combination of objects, design elements, images, multimedia interfaces and written interpretations needs to be structured in a certain way. This structure can be conceived of as ‘horizontal’, linear or alternatively as a more vertically organised hierarchy.

Exhibition hierarchy or narrative structure?

This idea of a hierarchy can link to both the relationship between different objects in the exhibition and the layering of information (largely through text) that is provided as part of the interpretation. In a scientific museum context, for example – dealing with specimens – this hierarchy is usually relatively clear-cut with top-level information potentially relating to the specimens’ broad grouping, which could be done by genus or geographical region, and then subsequent levels following the ‘evolutionary tree’. In a historical or archaeological exhibition, on the other hand, the structure tends to be chronological, frequently starting with objects relating to the earliest time period represented at one end and finishing with the most recent objects at the other. Frequently this is also combined with a focus on a specific geographical region, such as in the British Museum (and many other large archaeological museums), which, for example, has galleries on ancient Egypt, Mesopotamia, British prehistory or the classical world. While each of these has an overall geographical focus, they

are also organised chronologically (from oldest to youngest) within themselves. A radically different approach is adopted by the Pitt Rivers Museum in Oxford, which focuses primarily on object typology and function. This means that items from different time periods and geographical regions are displayed together in order to facilitate broad cross-cultural comparisons. For example, there are cases that bring together percussion instruments, or those of children's toys, from all over the world and from different time periods (Gosden et al. 2007; Pitt Rivers Museum n.d.).

But what if the story you want to tell is more conceptual without a clear underlying chronological, geographical, evolutionary or typological/functional relationship between the objects? All of these categories essentially mark a certain type of relationship between the objects brought together, governed by time, space, genetics or function. In cases where none of these apply, the key is to identify what the relationship is that connects the objects in your exhibition (or display). In a biographical exhibition, for example, focusing on the life of a (usually famous) person, this could be that they relate to the life of the same person even though they have little else in common (in terms of age, material, function, origin, and so on). Hence, it is vital to identify the connection between these objects and therefore the reason why they have been chosen to be displayed together. Starting out with the linkages between the different objects included together, the structure should follow through to the overall theme of the exhibition. Or conversely, the various individual object groupings and stories could cascade down from the overall theme, with a cascade suggesting a hierarchical relationship between different elements. An alternative to this would be to see the theme and title in the centre and arrange the object groupings and individual object stories around this. Perhaps helpfully for designing an exhibition of objects that will inhabit a certain space, it soon becomes apparent how either of these approaches suggest a spatial relationship between the different components, whether it is top-down, bottom-up, horizontal or circular. Consequently, perhaps the best way to conceive of the structure of an exhibition is to map it out visually. I will do this by providing an example from an exhibition that I curated at UCL a number of years ago (Box 8.3).

BOX 8.3 EXHIBITING MEDICAL MISADVENTURE

FLOP: 13 stories of failure was on display at UCL's Octagon Gallery from September 2019 until October 2021 and focused on the important role failure plays in virtually all aspects of our lives, both in the present and the past.

As the title implies, the exhibition was organised into 13 individual 'stories' of failure, including biodiversity loss, fakes and forgeries and infectious diseases (interestingly, *FLOP* opened in September 2019, three months before anyone had heard of Covid-19). For this example, I have chosen the story relating to medical misadventure called 'Bitter Pills, does the doctor always know best?' (Figures 8.3 and 8.4), which highlighted some historical medical practices that caused more harm than they did good. They included bloodletting, the use of mercury to treat a range of conditions (including depression and teething pains in infants) and lead nipple shields, which helped to soothe cracked nipples for breastfeeding mothers but also caused lead poisoning in infants.





Figure 8.3 The Bitter Pills display from *FLOP: 13 stories of failure*, at UCL’s Octagon Gallery: object display and accompanying text (photograph: M. Hinkley).

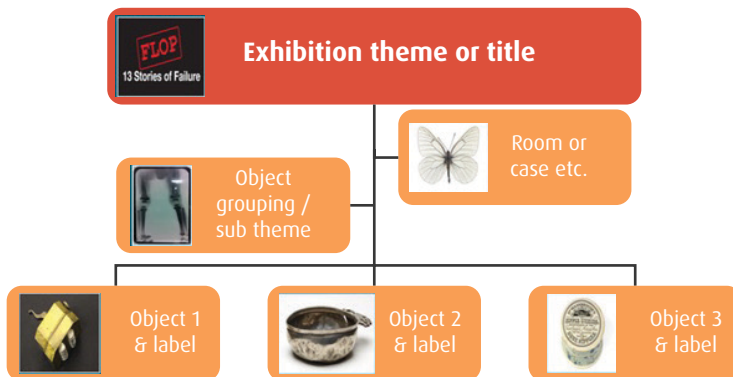


Figure 8.4 Narrative structure of the Bitter Pills/Medical Misadventure case in *FLOP: 13 stories of failure* (T. Kador).

As apparent from the above example, there are a number of elements – combining objects and interpretation – that link the narrative together. Dean (1997, 103) provides the following list of elements that are central to developing an exhibition storyline:

- a narrative document;
- an outline of the exhibition;
- a list of titles, sub-titles and text;
- a list of collection objects.

The narrative document is essentially what we have already started with the exercise in [Box 8.2](#) above. It starts with the overall aims and objectives of the exhibition and ‘includes information about the exhibition subject’ and ‘everything the curator feels should be known about the exhibition theme’ (Dean 1997, 106). This then gets fleshed out further – usually in bullet-point format – in an exhibition outline, which includes a preliminary list of objects and the major topics and sub-topics contained within the exhibition theme. Based on the list of topics and sub-topics, the exhibition team can develop a list of titles, sub-titles and other text to be displayed alongside the objects, such as object labels, group labels and introductory text panels. This leads us neatly to the question of how to employ text in exhibitions, which will be the focus of the next section.

WRITING FOR EXHIBITIONS

While ideally, exhibitions of material objects should foreground the objects on display and allow visitors to focus most of their attention on them, interpretation in the form of accompanying text usually represents an essential part of anyone’s experience of an exhibition. [Figure 8.1](#) at the start of the chapter presented a spectrum with object display and information display at opposite ends. This gives a sense that there is a trade-off between providing a message or telling a story – perhaps aided by objects – and presenting objects themselves. But the ideal-case scenario is that rather than taking away from the object exploration, the text aids visitors to understand the objects better and perhaps even observe them more closely and astutely,

thereby gaining more from the experience. The exhibition narrative document, discussed in the previous section, sets out the curator's (or curatorial team's) vision of the exhibition. This could be distilled into the question, 'What is it that we want to say?' However, Goins (2014) has pointed out that this question is 'derived from an understanding of the museum as the single voice of authority'. Instead, she suggests that the question should be rephrased as 'What conversation do we want to encourage?' – with the answer not being a lecture but an exchange of ideas between an exhibition (representing the curatorial voice) and its visitors (Goins 2014, 209). In order to gauge the appropriate type and amount of information we provide, with a view to enabling visitors to participate in this conversation, we must return to a range of questions that we have already encountered earlier in the chapter, such as what does the audience already know and what are they likely interested in finding out more about?

Then we need to anticipate what the first thing a person entering the exhibition space is likely to do – are they going to look for and read an introductory text panel or will they 'dive straight in' by looking at some objects? In fact, it is likely that there will be both types of visitors: those that stop to read first and those whose eye was caught by an object or exhibit and are starting there. Consequently, a good exhibition must be able to cater for both approaches and allow a visitor who does not follow the prescribed (or imagined) order of the exhibition structure to be able to have an equally enriching experience. This could be done by drawing their attention to essential elements they may have missed and rather than assuming they have read important information, encourage them to 'go back' and do so. On the flip side, the 'higher-level' introductory and descriptive text should equally encourage visitors to take their time to closely look at some of the objects on display. Like a visitor entering an exhibition, we now have the option of considering the exhibition text from a variety of perspectives and levels, that is from the top down (such as beginning with the introductory text) or bottom up (starting with individual objects and their labels). As this book is primarily about working with objects, which are generally the 'building blocks' of most exhibitions, perhaps it is best to start there.

Individual object labels

Somewhat curiously, Dean (1997, 109) points out that object text labels are 'often the most poorly thought out part of many

exhibitions’, which can result in an exhibition suffering ‘due to badly conceived and worded labels’. So, what is the first (and perhaps most important) thing that an object label should do?

It is trying to anticipate and then answer – or at least address – the visitor’s initial question after they have looked at a given object. In other words, the curator’s key mission is to provide them with the key information they might be looking for to help them make sense of the object and why it has been included in the exhibition. For a ‘strange’ or unfamiliar object, this will probably be an explanation of what the item is and how it is or has been used. For an object that is broadly familiar or whose function is readily apparent but not its age or origin, it might be most useful to start by informing the visitor how old it is and/or where it comes from (Figure 8.5). When providing answers to the audience’s most likely questions, it

What is it?



Is this ‘real’?

How old is it?



Figure 8.5 Composite of different objects with likely audience questions [Answers: bone doll made from the Rhea bird, covered in cloth], Paraguay, UCL Ethnography Collection (M.0105); Ningyo mermaid/merman, combining the torso of a monkey and the tail of a fish, Japan, Horniman Museum (NH.82.5.223); Draisine, 1817, Landesmuseum für Arbeit und Technik, Mannheim (EVZ:1987/0515).

is vital that the information is as clear and unambiguous as possible and that it does not lead to further questions that in turn are not answered (see [Figure 8.6](#)).

Once the initial curiosity of the visitor has been satisfied – especially if this was achieved in just a few words – there might be an opportunity to tell another story, which may not be part of what they were looking for and which is perhaps more in line with a conversation the curator would like to initiate. [Figure 8.6](#) provides an example of this (from the *FLOP* exhibition).

BOX 8.4 EXERCISE: WRITING AN EXHIBITION LABEL

Let's pick up from the first exercise ([Box 8.1](#)) in this chapter in which we described an object to a range of different people, modifying our language according to their background and likely interests. You can use the same object for this activity or, if you prefer, use something else. Once you have chosen the object, follow the following four steps:

1. Take a good look at the object and make a list of the five most important things about it.
2. Now take this list and reduce it to the three aspects that are most essential to understanding the object.
3. Identify the single most important point about the object (that is, temporarily cross off the other two) and write a 50-word exhibition label about the object focusing on this point.
4. Once you have done so, see if you can manage to integrate one or both of your other top three points into a 100-word label.

Now that you have produced your own exhibition label, we can start thinking about the language you use. Also, the exercise above will give you a sense of how much you can say in 50 or 100 words. How does this compare with how much text you are likely to read when you visit an exhibition, bearing in mind that visitors to an exhibition are likely to encounter tens of such labels? This raises the following follow-up question that is frequently asked regarding the ideal length of exhibition labels.

How long should labels be?

The initial answer to this question is that it depends. For example, different types of museums and exhibitions have differing conventions regarding descriptive texts. For example, in an art museum or gallery context, it is not unusual to find labels accompanying artworks of over 100 words, while in natural history contexts labels tend to be extremely brief, often limited to a specimen's name (perhaps in English and Latin) and possibly a very brief descriptive element. Apart from such conventions, ultimately the answer to the question on label length relates back to the exercise in [Box 8.4](#) and the core mission of a) answering the audience's first question and b) making the connection between answering that first question and the story you would really like to tell. On comparing different labels from various types of exhibitions, it becomes apparent that besides conventions regarding the length of the label text, there are also differences in the use of language.



Figure 8.6 The short-nosed echidna (LDUCZ-77). This specimen formed part of the 'FLOP: 13 stories of failure' exhibition. Courtesy of the Grant Museum of Zoology, UCL (photograph: M. Clayton).

Writing style and use of language

Ideally, object labels, like all interpretive text in an exhibition, should be both as accessible and informative as possible. Thus, ideally the language should be plain and engaging. Jennifer Blunden suggests that writing for exhibitions should be like talking, but ‘talking tidied’ (Blunden 2017a). Based on extensive research into the effectiveness of exhibition text, she suggests that in contrast to essays or other academic writing, in a museum context the ‘aim is often to immerse visitors in a specific time, place, thing, and use that as a bridge to a broader context or story’ (Blunden 2017b, 302). Consequently, she concludes that ‘good’ texts are ‘those that are engaging to read and that build cumulative knowledge shift or “wave” between more concrete and context-dependent meanings and more abstract and context-independent meanings’ (Blunden 2017b, 305). In other words, it is preferable to start with concrete and descriptive language using ‘doing’ and/or ‘sensing’ verbs (see Figure 8.7), followed by some more abstract conclusions or inferences. Blunden has developed a helpful toolkit for analysing label text, which exhibition content writers can use to assess their own texts and aim to get this balance right (Box 8.5).

BOX 8.5 EXERCISE: BALANCING CONCRETE AND ABSTRACT MEANINGS IN EXHIBITION TEXT

For this exercise we will use Blunden’s ‘Bringing accessibility into view’ startup toolkit to examine your 100-word object label that you wrote for the previous exercise (Box 8.4).

Read the label and colour-code all the verbs in the following way:

- Doing verbs (such as living, working, building, making): red
- Sensing verbs (such as feeling, liking/disliking, seeing, hearing): blue
- Being verbs (such as being, becoming, having, is/are): yellow

Then look for use of nominalisation, which is when verbs and other concrete forms are turned into nouns (such as ‘the depiction of’ as opposed to ‘depicted’) and colour-code them grey.



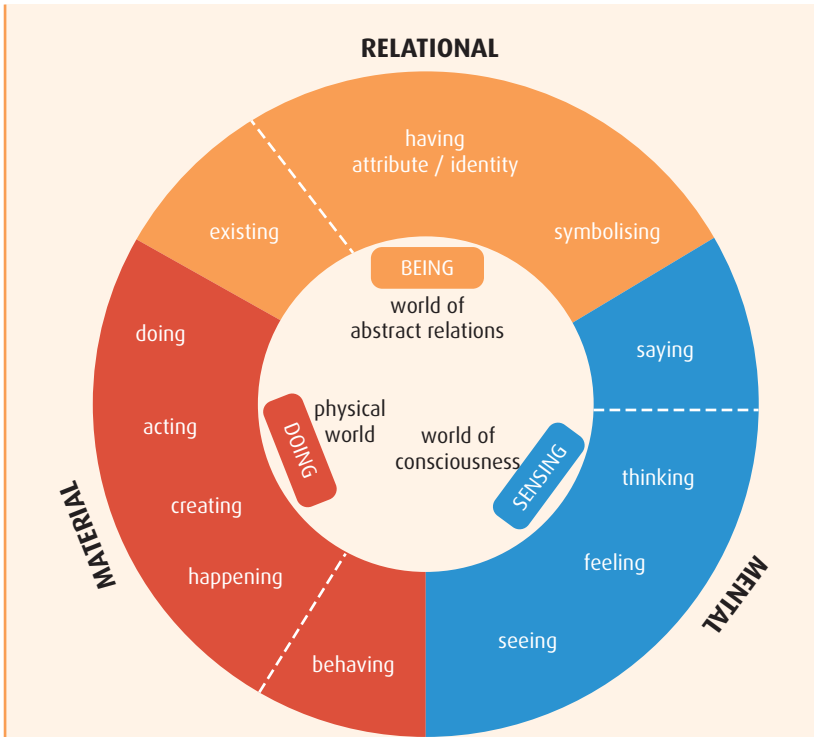


Figure 8.7 Blunden's (2017b) 'Bringing accessibility into view' startup toolkit. Based on process types in language (after Halliday and Matthiessen 2004, 172).

Now look at the colour-coded text, and if you find that there is an emphasis on yellows and/or greys rather than reds and blues, especially at the start (that is, the opening sentence), rewrite the label to balance this more appropriately.

Once you have done so, repeat the colour-coding to ensure that the label looks more balanced and with a greater emphasis on reds and blues at the beginning.

While the discussion so far has primarily focused on labels accompanying specific individual objects, the guidelines for achieving maximum engagement through the text and between the visitors and the objects equally apply to the use of text elsewhere in an exhibition context. In the next section we will briefly consider the different levels at which you may find text and how it tends to be used at each of them.

Levels of exhibition text

When looking at the exhibition outline and the visual representation or narrative structure (Figures 8.3 and 8.4 presented in Box 8.3, we can see how the individual object labels relate to other textual interpretations. Most commonly, text is also used for descriptions of displays that contain a number of objects grouped together, usually under a sub-theme. Depending on the size of the exhibition itself and the exhibition space, a number of such displays may be contained in a large exhibition case, which again may be grouped together under a certain theme associated with a descriptive label. Or it could be that an entire room in an exhibition space is dedicated to a certain sub-theme, which in turn is introduced by a text panel. And finally, at the top level, there is the text panel that usually introduces the overall exhibition. In linear exhibitions, this tends to be positioned at the start to give the audience a general overview of the exhibition topic and its context. Space here does not allow us to practise producing the labels for an entire display from the individual object to the overall exhibition theme. However, Figure 8.5 provides a schematic attempt to illustrate this relationship based on the example from *FLOP* discussed in Box 8.3.

CURATING A DIGITAL EXHIBITION

This chapter has largely been written with the exhibition of physical/material objects in mind, especially in educational contexts, but increasingly people are accessing exhibitions in virtual ‘spaces’. Consequently, Chapter 9 will explicitly focus on the role of digital technology in museums, exhibitions and object research more generally.

FURTHER READING AND RESOURCES

As the focus of this chapter has been on exhibition making in educational contexts, it only provided limited discussion about the detailed administrative and other considerations regarding exhibition planning, development and design. Readers who wish to immerse themselves in a more comprehensive approach to these aspects could consult one of the entire volumes dedicated to exhibition planning and design such as David Dean's (1997) *Museum Exhibition* (especially Chapter 3), Adrian George's (2015) *The Curator's Handbook* or André Gali's (2015) *Crafting Exhibitions*.

Similarly, readers with a keen interest in the practicalities surrounding exhibition design might find it useful to consult Stephen Bitgood's (2014) 'Designing effective exhibits'.

Audience and visitor studies

Roughly since the start of the twenty-first century, visitor studies and audience research have become a major field within museum studies. The work of John Falk and Lynn Dierking has been instrumental in this area, including their publications *Learning from Museums* (2000) and *The Museum Experience Revisited* (2013), as well as John Falk's (2009) *Identity and the Museum Visitor Experience*. There are also a number of online resources available to help identify and cater to a range of different target audiences, such as the Audience Agency's *Audience Spectrum*: <https://evidence.audienceanswers.org/en/evidence/audience-spectrum>.

Writing for exhibitions

Writing text for exhibitions is very different from writing other forms of text such as essays and reports in an educational setting, and this field too has developed its own scholarship. A good place to start for readers interested in both the theory and practice of producing effective exhibition text might be Jennifer Blunden's (2017) 'Adding "something more" to looking' and 'The sweet spot'. Moreover, the Edinburgh-based publisher MuseumsEtc has produced a collection of *10 Must Reads: Interpretation* (2014) by Elizabeth Goins; for a broader context, they also have published a collection on the role of exhibitions in education by Stefanie S. Gold and Mark S. Jandl (2015).

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9

Digital technologies in researching and exhibiting objects

The key features of this chapter are:

- the main benefits and challenges that digital technologies bring to working with objects and collections;
- examples of digital applications in object/collections research and display;
- some reflections on the future of digital technologies for OBL.

After reading this chapter, readers should be able to:

- outline some of the main opportunities and challenges that digital approaches to objects and collections present;
- engage with questions of authenticity and accessibility in relation to digital 'material culture';
- critically reflect on the role of rapidly developing digital technologies in object-based work and how they might shape the future of the field.

This chapter focuses on an ever-growing field within object-based learning (OBL), education more broadly and really any other aspect of twenty-first-century life, involving the role of digital technologies. As with previous chapters, it will commence with definitions of a number of key terms, followed by a contextual discussion of the history of digital technology in exhibition making and museum learning. After that, the chapter will explore some broader questions regarding the opportunities and challenges digital approaches present when working with objects and curated collections, especially in educational settings, before discussing several practical examples and case studies.

DIGITAL TECHNOLOGIES, OBJECTS AND COLLECTIONS IN CONTEXT

Visitors to almost any museum, gallery or exhibition space in the 2020s will be presented with a range of digital technologies, including digital displays, QR codes, social media and interactive exhibits, as well as virtual and augmented reality. These technologies are so pervasive in the twenty-first century that we often barely notice them, let alone step back to think about their role, function or history.

What are digital technologies?

Most people nowadays deal with the digital world almost constantly, whether it is through the mobile phones (and other devices) on which we spend so much time, the computers that are now part of so many appliances from dishwashers and washing machines to cars, or the WiFi networks that most of these devices are connected to. I am, of course, using a digital device as I punch these words into the keyboard of my laptop computer, and chances are, unless you purchased the hard copy version of this book, you are reading these same words through the screen of another digital device. Hence, digital technologies are omnipresent in twenty-first-century life; however, how often do we stop to consider what ‘digital’ actually means?

Johnstone et al. (2022, 1) define digital technology ‘as tools, systems and devices that can generate, create, store or process data. The data processing and logic capabilities of digital technologies are enabled through microprocesses that are programmed to perform various functions.’ They continue that this can include ‘devices such as personal computers and tablets, tools such as cameras, calculators and digital toys, systems such as software and apps, augmented and virtual reality, and less tangible forms of technology such as the Internet’ (p. 1).

This list provides a useful starting point for us to explore the role of digital media in a museum, cultural heritage and object-focused context. In fact, all of these devices have been and are being used in connection with studying, exploring and exhibiting objects. For many researchers (in the broadest sense) their mobile digital devices – especially their smartphones, tablets and/or laptop computers – are their primary means of engaging with objects and material culture. This can be for taking photographs (making videos), recording observations and/or looking up details online (through a search engine), and frequently a combination of all three, for example with apps that help identify objects through an image, URL or QR code. The latter two already point to an active engagement with digital technologies by the people/organisations holding and displaying objects. Later in this chapter we will review these and other approaches, such as the aforementioned software apps, augmented and virtual reality and their role in object engagement, in greater detail. But before focusing on the use of different digital media in a cultural heritage and exhibition context, there are some further terms and phrases that need to be clarified.

Digital objects

When engaging with objects in a digital world, readers will likely come across the concept of ‘digital object’, which consequently needs to be defined and contextualised. The application of the adjective ‘digital’ to computing technology appears to have originated in the 1940s (Eckert et al. 1945), but it seems to have first been applied to objects with the creation of the category ‘digital object’ in the late 1990s and early 2000s (for example, Lacy and Mitchell 1997; Stout 2002).

The Society of American Archivists defines digital objects simply as ‘information in binary form and its associated metadata’ (SAA n.d.), and the Consultative Committee for Space Data Systems’ definition is ‘an object composed of a set of bit sequences’ (CCSDS 2012, 11). Molloy (2017) explains that this ‘means that if the material can be manifested by a bitstream, and appears to the user as a digital file, it can be thought of as a digital object’. Both Molloy and the SAA note that digital objects can be simple, such as a simple text or image file. Others are complex, such as a website, a digitised book or a video, composed of multiple elements such as a video track, audio track and container file. Importantly, ‘digital objects include informational content as well as metadata that supports administration, access, and preservation’ (SAA n.d.). Metadata is digital data that describes and provides information about other data, sometimes also referred to as ‘data about data’ (ARDC 2020).

In addition to the distinction between simple and complex digital objects, Brügger (2016) and Zuanni (2021) have pointed out that it is important to distinguish between ‘digitised’ and ‘born-digital’ objects, as well as objects that are reborn-digital. The ‘main characteristic of digitized material is that its “becoming digital” is based on an original that was not digital’ (Brügger 2016, 5). In other words, digitised objects start with a physical item that has been photographed, scanned or digitised via other means and may therefore consist of digital reproductions such as images or 3D models and metadata (Zuanni 2021, 187).

Born-digital material, on the other hand, ‘has never existed in any other form than digital’. This can include material available on digital media (both hardware and software) that never had an analogue original that can be ‘referred back’ to (Brügger 2016). Finally, both Brügger and Zuanni also describe reborn-digital objects, which relate to ‘born-digital material that has been collected and preserved, and that has to a large extent been changed in the process of collecting and preserving’ (Brügger 2016, 5). This essentially refers to digital or web content that has been archived and therefore transformed from a simple born-digital item to an archival one.

For the purposes of the discussion here, the distinction between simple and complex as well as digitised and born-digital objects is the most important, but it is useful for readers to understand that

like all physical objects (born-) digital objects also undergo a change when they are being collected and archived. This process marks an important stage in their object biography (see [Chapter 5](#)) and transforms them into reborn-digital items.

In summary, ‘digital objects are often described as pure information’ (Geismar 2018, 18); at different levels, they are text files, binary codes or signals generated by values of voltage, yet they tend to ‘appear to human users as colourful and visible beings’ (Hui 2012, 387), regardless of whether they have a physical (analogue) antecedent or not. Importantly, both digitised and born-digital objects can be, and are being, collected by museums, archives and similar cultural institutions. Therefore, many of the other approaches to curated objects discussed in this book can be equally applied to them. To explore this relationship between the physical and digital materials found in museums and collections, the next section will outline a brief history of the role of digital technologies within object research and display, both within and beyond a museum context.

A very brief history of digital technologies in object research and exhibitions

This section will provide a brief historical overview of the use of technologies in museums over roughly one century from the early 1900s until the digital ‘revolution’ in the early 2000s. Museums and similar exhibition spaces reflect the wider cultural, social, political and technological changes in society (Dimopoulos 2018). Moreover, they have long seen (and portrayed) themselves as bastions of learning and have therefore frequently embraced the key technological innovations of their day. This can be traced back to the great exhibitions and world fairs of the nineteenth and early twentieth centuries (Griffiths 2003, 2008), for example through the use of the phonograph to provide contextual information about exhibits that curator Dr Ant Fritsch proposed for museums (Fritsch 1904; Griffiths 2008, 235). This clearly has found a contemporary echo in museum audio guides, whether as physical devices (handheld or wall mounted) or digitally mediated through visitors’ smartphones, with some museums having moved to very little or no written text accompanying exhibits and using technology instead to replace traditional text panels (Meecham and Stylianou 2012, 104–105). However, apart from a mention in relation to the 1908–1909

Tuberculosis Exhibition at the American Museum of Natural History, New York, the first documented use of the gramophone in a museum context was some two decades after Fritsch's vision, with an installation in the Deutsches Museum in Munich in 1930 and the Science Museum in London in 1931 (Griffiths 2008, 236–237).

A contemporary observer at the Science Museum explains how 'the visitor pressed a button and the instrument gave "information as to the position of exhibits"'. The device also described the contents of an adjoining case, and when that was complete "the needle return[ed] to the starting point ready for the next enquirer."

Moving image in the early twentieth-century museum

Museums also embraced the advances in photography and moving image technologies. In 1896, Thomas Smillie (1843–1917) became the first curator of photography at the Smithsonian Institution in Washington, DC (Kapsalis 2014). He was the museum's 'in-house photographer, tasked with documenting scientific experiments and institutional life' (Dimitrios 2016, 19). With the advancement in moving image technology in the first decades of the twentieth century, film objects themselves soon became part of visual museum displays. For instance, in 1922 'the inventor Will Day lent 500 items from his collection of cinematic apparatuses to the London Science Museum', which remained on display there until 1959 (Mandelli 2019, 1; Dimitrios 2016).

The earliest documented use of moving image technology in museums comes from the New York Post Office Museum, which in 1911 installed a number of so-called 'Mutoscopes' to illustrate a range of postal-related activities, such as shipment, sorting and delivery (Figure 9.1). The Mutoscope is an early motion picture device, patented in the 1890s, which was based on the principle of a flip book, rotating a number of still images at speed to give them the appearance of movement. It was fitted with a peep hole so only one viewer could see the projection at a time (Mandelli 2019). In the early 1920s, Mutoscopes were used in the London Imperial War Museum, where the scenes displayed 'were in close relation with other museum exhibits, such as photographs, posters, and paintings, as well as medals and uniforms ... model boats and planes, as well as artillery and other pieces of military equipment' (Mandelli 2019,

37). The importance of the relationship between the moving images in the Mutoscope and the actual objects on display was highlighted by an article in *The Times* in 1927 that explained that ‘after looking at a big gun one can walk aside to see a little machine, drop in a penny, and see, as in a peep-show ... some gun in action in France’ (Mandelli 2019, 38). However, mirroring the contemporary problem that many museums and cultural institutions face with technological changes making once state-of-the-art devices outdated, the Mutoscope had become largely redundant by 1930, with nobody left to maintain or repair the machines (Mandelli 2019, 39).

Just when the Mutoscope was nearing obsolescence, the curator of the Leicester Museum, Edwin E. Lowe, suggested – during a conference in 1929 and in an essay in the *Museums Journal* the following year (Lowe 1930) – a technology that allowed moving images to be projected directly into the darker parts of museum and gallery spaces. The proposed device was the Kodakscope – a small and portable 16 mm projector – combined with a small screen (Mandelli 2019, 30). Similarly, the following year the *Museums Journal* reported on another device – the Dramagraph – in use at the American Natural History Museum in New York since 1928, consisting of a projector inside a wooden cabinet, with a glass screen and a button through which visitors could start the projection (Griffiths 2008, 243; Mandelli 2019, 30). In both cases, the films tended to be no more than five minutes long and were intended to enhance and prolong the visitors’ engagement with the museum exhibits as well as attract new demographics of visitors into the museums. Griffiths (2008, 247) argues that these devices ‘represented a breakthrough in museum motion picture exhibition’, and the same principles have essentially endured to the present day, with digital screen-based exhibits. They ‘provided the museum visitor with an experience not dissimilar to that engendered by today’s video screens and interactive kiosks’ (Griffiths 2008, 246). The 1930s saw an exponential expansion of the use of moving images in museums, and several institutions started to establish their own film libraries. This paralleled developments outside the world of museums, with this period representing the ‘golden age’ of the Hollywood studio system and also coinciding with the commercial development of sound film.



Figure 9.1 Mutoscope, England (c. 1899) (E.5700-2000). Copyright of Victoria and Albert Museum.

From the 1950s onwards, several American and European museums pioneered the idea of individual audio guides. For example, in 1954 the American Museum of Natural History offered visitors a guide comprising a tape player and headphones, not dissimilar to the ‘Sony Walkman’, first introduced to the market in 1979.

Museum visitors would carry this around the exhibition and at the click of a button it would provide a detailed explanation about a range of exhibits. While arguably this represents a predecessor of the individual museum audio guide (see below), it took until the digital revolution of the second half of the twentieth century for technologies such as these to become widely available.

Digital technologies for museums

As illustrated by the early adoption of the Mutoscope by the Imperial War Museum, much of the advances in both photography and film technology can be linked to military (followed by commercial) interests. Thus, after the major advances during the 1920s and '30s, which relate to technologies developed during the First World War, the same is true for the 1940s and the Second World War. The key new medium of the early post-war era was television, which was rapidly becoming the mass medium of choice for households across the Western world. As early as 1940, the *Field Museum News* reported that 'looking to the future we see in television a peculiarly efficacious opportunity for the distribution of information to hundreds and thousands of persons simultaneously' (Griffiths 2008, 240). Their prediction became true and within 20 years some 75 per cent of British homes had a television set (Goodhart 2020).

It was also in the 1940s when Claude Shannon (1916–2001) developed Information Theory, and Alan Turing (1912–1954) considered computers as thinking machines, giving rise to computer science and digital information systems. In turn, this opened the possibility of bringing together sound, film, text and video within the 'new digital landscape of the mixed media digital culture that we inhabit' today (Giannini and Bowen 2019, 5–6). Having said that, for the remainder of the twentieth century analogue media such as video and audio (via magnetic tapes) dominated the museum and gallery world, seeing a particular coming of age in the 1960s and '70s, with the birth of home video and video art (Griffiths 2008, 249). Yet, digital systems and the use of computers continued to advance through this period to the point where they became the dominant technologies in museums as well as everyday life. In *The Medium is the Message*, McLuhan (1967) foresaw the huge impact of new technologies on ways of life, communication and learning, and

identified the difficulty of approaching new media. He suggested to ‘approach the new with the psychological conditioning and sensory responses to the old’ (McLuhan 1967, 94).

Although the first digital camera was invented by Steve Sasson at Kodak in 1975 (Marsh 2020), it was not until almost two decades later that Kodak launched the first commercially available digital camera on the market in 1994 (Goodrich 2022). From that point, digital handheld devices started to take off rapidly, partially fuelled by the development of online communication.

Between the invention of digital photography and its first commercial application came the development/creation of the internet (initially World Wide Web) in 1989 by Tim Berners-Lee (Berners-Lee and Fischetti 1999). Over the course of the 1990s, the technologies able to commit sound and image (including moving images) to digital media converged with the advances in networked computing, thus making these digital technologies ever more sharable and accessible (as well as faster and affordable). This also included many museums launching their own public-facing websites, which of course are now a mainstay of many cultural institutions and importantly include publicly searchable digital catalogues.

The interactive/immersive museum experience

From the 1980s onwards, digital technology became more widespread across the museum sector, albeit initially in separate rooms (digital/learning centres) away from the main exhibition spaces, such as the Micro Gallery at London’s National Gallery. But from the 1990s onwards, interactive devices started to appear in museum gallery spaces themselves. Perhaps the most recognisable interactive element in a museum and gallery context (of the final decades of the twentieth century and the beginning of the twenty-first century) is the interactive museum ‘kiosk’. The precise point in time and location at which the kiosks first appeared in the museum world is not straightforward to trace. Arguably they have their antecedents in the Mutoscope and Dramatograph of the 1920s and ‘30s, but the kiosk takes this idea further and gives the visitor additional ‘agency’ beyond just activating the device.

Like with the Mutoscope, the most common form of kiosk is a single-user device. However, in order to accommodate larger

groups of visitors, interactive devices can also be presented in a group format, with a number of people controlling the action on the screen. An example of this is ‘the National Scouting Museum’s Boy Scout Patrol Theater, which allows eight users to take on the role of the individual Boy Scouts portrayed in the multimedia program’ (Garrand 2006, 189).

While museum kiosks and similar fixed installations still play a role, increasingly technologies in museums – as in the wider world – have become more mobile and individualised. As already mentioned, attempts at personal audio guides in museums date back as far as the 1950s. However, it was not until 2005 that the Indianapolis Museum of Art became probably the first museum to introduce a digital handheld device for museum visitors (Meecham and Stylianou 2012), a simple personal digital assistant named ArtXplore. This device could be seen as a forerunner of the smartphone, which appeared two years later with the launch of the first iPhone in 2007. With the exponential increase in smart telephones since then, the use of museum audio guides that need to be rented during the visit has largely been superseded by web-based applications that allow visitors to access accompanying audio and indeed video content, as well as augmented reality, on their own mobile phones (for example, via the use of QR codes or geolocation) during exhibitions.

Taking lessons from history forward

This is perhaps a suitable point to finish this brief historical overview of the (r)evolution of digital technologies within the museum sector. Interestingly, with the focus on individual handheld devices since the 2010s, the approaches seem to have come full circle from the Mutoscope of the 1920s allowing only one person at a time to view the images. When discussing digital technologies in heritage, it is also important to reflect on questions of accessibility and equality. The Mutoscope was available only to museum visitors who could afford the coin needed to activate the machine. Such inequalities have only widened over the past century, with the digital divide and the affordability and accessibility of technologies. Arguably, museums used to be places where once admitted, everyone could, in theory at least, have the same experience. In practice this was of course never fully the case, as most exhibits and labels assume a certain level of

comprehension, education and prior knowledge, which has not really changed. What has changed, however, is that now the level of digital access a person has predetermines a lot of their ability to engage and participate, not just with museums but with much of the world at large. Having said that, the argument could also be reversed, with a more optimistic reading being that with the ever greater personalisation linked to mobile devices, predictive algorithms and artificial intelligence, museum visitors are able to tailor their own experience according to their interests, understandings and prior levels of knowledge. We will unpick this paradox further in the next section, which will look at the role of digital tools for investigating and understanding objects, both within and outside a museum context.

It must also be noted that the above discussion and history of technology only focuses on the public and visitor-facing use of technology in museums, while of course museums saw an equally great digital revolution in terms of their behind-the-scenes operations (such as cataloguing, documenting and conservation) throughout the second half of the twentieth century and into the twenty-first century. In the next section, we will consider some of this in relation to digital technologies in object research.

When examining the contemporary use of technology in working with objects and collections, we need to bear in mind that this is a rapidly changing field, and much will have happened between the point at which I am writing these words and when you are reading them. Therefore, it is important to be clear that that this volume does not and cannot lay any claim to providing a comprehensive discussion of this vast and constantly evolving topic. However, like with all the other chapters in this book, the main aim is to provide readers with a set of tools for approaching objects that they can develop further, refine and (if they wish) specialise in. The final section of the chapter will present a brief comment on the potential future of (digital) technology in object research and museum display, with the full knowledge that this may well need to be revised within a relatively short space of time. Next, I will turn to considering the contemporary use of digital approaches when working with material culture.

DIGITAL TECHNOLOGIES AND OBJECTS TODAY

This section is divided into two main parts, the first focusing on digital technologies in working with individual objects and the second on the use of technologies in a museum display and exhibition context. As the book is primarily dedicated to exploring tangible material culture, the first part on object research will primarily focus on the role of technology in supporting researching ‘physical’ rather than digital objects, although as readers will see, some of these approaches result in the creation of digital (that is, digitised) objects.

Digital technologies in object research

Imaging technologies

Above we briefly explored the development of digital photography between the 1970s and ‘90s. Today, almost every student has access to a smartphone with a rather powerful camera, a flashlight/torch and magnification app. Despite these advances, and especially the instant availability of high-resolution photographs, object researchers are advised to nonetheless remind themselves of the key principles of object photography (see [Box 9.1](#)). Having a good-quality camera does not, on its own, ensure the taking of high-quality photographs. Beyond simply photographing objects, there are now also many easily available computer programs and mobile phone applications that allow for the processing and analysing of photographs. These enable tasks such as filtering out certain wavelengths of light, stitching images together seamlessly (similar to photogrammetry) or even creating three-dimensional models.

BOX 9.1 SIMPLE STEPS FOR TAKING BETTER OBJECT PHOTOGRAPHS

Please take a look at the images in [Figure 9.2](#) and identify what the key problem with each of them is and consequently what small changes the photographer could make to make them better and clearer.



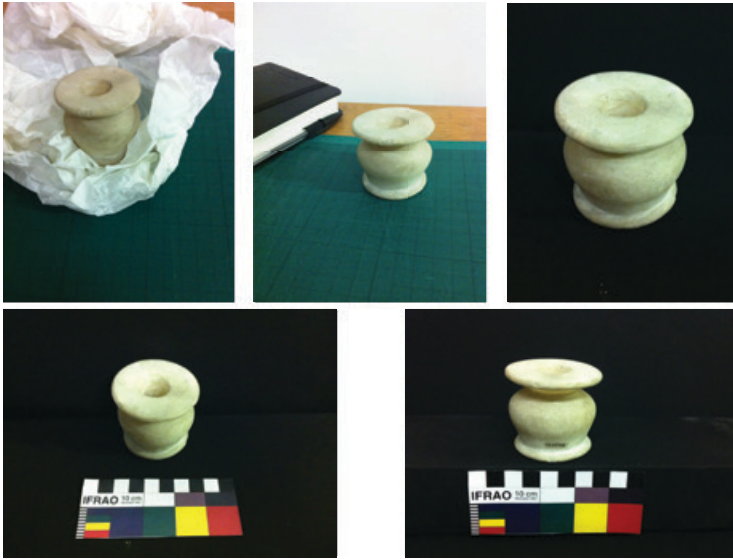


Figure 9.2 Things to avoid and to look out for when photographing objects. Are there distractions in the frame? How many different (colour) backgrounds are there? Can you tell the scale of the object? (Object: Calcite/alabaster Kohl Pot from ancient Egypt, possibly 18th Dynasty (LDUCE-UC64745).) Courtesy of the Petrie Museum of Egyptian and Sudanese Archaeology, UCL.

It needs to be said that this is not designed to be a guide for anyone wishing to take professional or publication-ready images of objects but an aid for people who wish to document an object as accurately and clearly as possible with the technology they have readily available (generally their mobile phone).

Rather than just holding the camera/phone up and ‘clicking’, taking a step back and briefly considering the following three key aspects before taking the picture can make a dramatic difference to the resulting images.

Light and shadow

Pay attention to the main source(s) of light and the direction they come from. Can the objects be moved or adjusted, or if not, can you



change the angle and direction from which you are photographing the object? Does the object cast a shadow? If so, where does it fall? Also be careful that you do not cast a shadow, especially if it partially obscures the object. Frequently, you will see images of objects where you can clearly see the outline of the shadow of the mobile phone/camera and/or the photographer's hands. If it is impossible to avoid your shadow partially covering the object, then see if you could create a screen (for example, using a sheet of paper) to cast a shadow over the entire object so the light levels are relatively uniform. As a general rule, I would avoid using the flash on your camera, as it tends to reflect off the object, thus potentially obscuring vital details.

Background and frame

Be conscious of what the background of your object looks like. Is it monochrome or does it comprise multiple colours that might be confusing or distort the colour of the object in the image? If so, could you place a sheet of dark or white paper or fabric underneath and/or behind the object to provide a more effective monochrome background? Also be conscious of what other items may appear in the frame of the image that could distract from the objects you wish to photograph. If possible, could they be removed, or could you change the angle and/or direction from which you take the photograph to avoid such distractions?

Scale and dimensions

Is it possible from your photograph to tell what size the object is? If this is an important consideration – which it usually is – then consider whether you can add a photographic scale. There are a range of simple photo scales to download and print available online. If you do so, please be sure to double check with a ruler or measuring tape before using it that the scale printed out correctly.

In the light of the rapid proliferation of digital imaging technologies in heritage work, a meeting on this topic took place in London in 2006, which resulted in the creation of the London Charter for Computer-based Visualisation of Cultural Heritage (Denard 2012). Hermon and Niccolucci (2018, 45) explain that complying with the London Charter means providing ‘the information necessary to any future researcher to assess if the involved digital object is “authentic enough” for its intended re-use’. However, they also acknowledge that the Charter is limited to visual properties such as the ‘shape and appearance of objects, which do not exhaust the features of objects’. They thus suggest that similar approaches should be taken to document other object properties, both directly perceivable (for example, texture and feel) and hidden ones (such as chemical composition) (Hermon and Niccolucci 2018, 45).

By far the most common form of digitisation of any object is a ‘simple’ digital photograph (or a small number of photos, showing the object from multiple perspectives). Much has been written on object photography, both digital and analogue (Davidson 2017; Stylianou and Stylianou-Lambert 2017; Moschovi 2020), and there is no need to repeat these arguments here. However, following the practical steps outlined in [Box 9.1](#) will hopefully help object researchers to make the most of the images they take. One key problem with photographs of three-dimensional objects is of course that the image flattens them and can only show them from one side at a time. This can be somewhat mitigated by taking multiple images from various perspectives, but this will never substitute for being able to consider the object from all sides. Technologies that allow this will be the focus of the next section.

3D scanning and imaging

While strictly speaking also part of imaging technologies, three-dimensional (3D) scanning and imaging have become such a major aspect of object research and engagement that they deserve a brief discussion in their own right.

These applications are central to creating ‘first-order’ digital objects, which are those that started life as physical items, through a process of digitisation (see above). While this is generally achieved

via 3D scanning, Garstki (2018) notes that there are many different technologies used to make digital artefact models. He also points out that the ‘benefits that these digital 3D artefact models present to research’ are vast and include ‘access to otherwise remote collections, scalable models for comparative analysis, detailed morphometric analysis, and increased engagement with the public’ (Garstki 2018, 75). At the same time, given the lack of standards or oversight in this relatively new and rapidly growing field – which the London Charter (see above) sought to address – there remain challenges and huge variation in the quality and reliability of the resulting digital models.

Standing at the interface between individual object research and public-facing museum exhibits, making objects that were digitised via 3D scanning available to be explored and manipulated – in a process that I will refer to here as ‘virtual object handling’ – could be seen as a form of facilitating object research. Box 9.2 presents an example of this from the Petrie Museum.

BOX 9.2 EXAMPLE: THE 3D PETRIE MUSEUM

Between 2009 and 2015, UCL’s Petrie Museum of Egyptian and Sudanese Archaeology, UCL’s Department of Civil, Environmental and Geomatic Engineering, and Arius 3D, a geomatic engineering and business partner, developed a program for creating 3D images of objects in the Petrie collection, which ultimately involved the scanning of some 150 of its objects. Twenty-eight of these objects have been made available to view and manipulate via the project’s website (<https://www.ucl.ac.uk/3dpetriemuseum>). As an additional feature, each object was also linked to the museum’s online collection catalogue so that visitors could quickly and easily find additional information about the item (Figure 9.3). As readers who have accessed the 3D Petrie website will be able to testify, while Figure 9.3 gives an idea of what the interface for the 3D Petrie Museum looks like, this does not come close to the experience of manipulating and ‘playing’ with the scanned objects oneself.



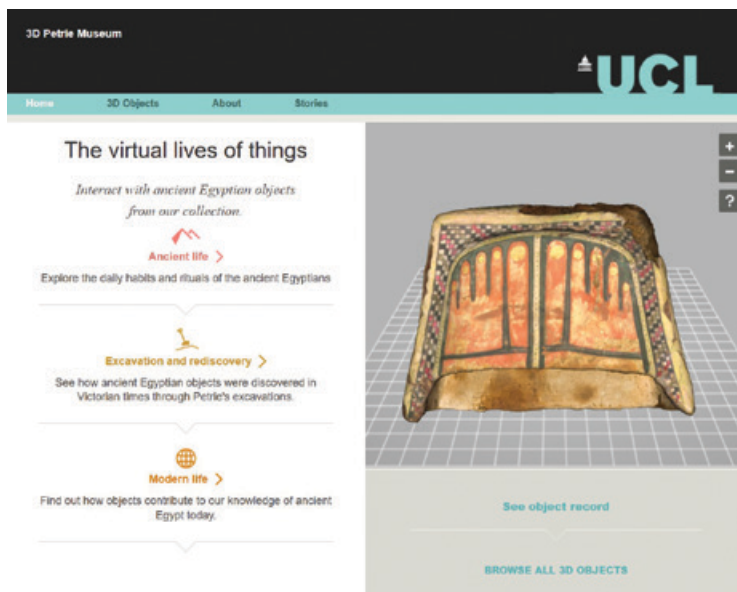


Figure 9.3 The 3D Petrie Museum interface, accessible through: www.ucl.ac.uk/3dpetriemuseum. Courtesy of the Petrie Museum of Egyptian and Sudanese Archaeology, UCL.

3D printing

3D scanning is also the foundation for 3D printing and creating virtual reality models of objects (see below). The possibilities that 3D printing present for object engagement for learning, enjoyment and research are vast. Consequently, the museum sector has eagerly embraced this technology since it emerged in the 1980s (Hickey 2014), as it allows visitors to ‘feel and look at objects previously only viewed under glass’ (Hancock 2015, 33). While 3D printing has only been made possible by the digital technology of 3D scanning, its origins – especially for the museum sector – could arguably be found in the much older practice of model making, for example in materials such as wax and plaster. This practice – especially wax modelling – can be traced back to the early modern period, but applied to museum and collection items, both plaster casting and wax modelling were at their height of

popularity throughout the nineteenth century (Kador 2021). Plaster casts in particular are frequently referred to as replicas (or copies) and are traditionally seen as less real or authentic objects compared to ‘original’ artefacts (Joy and Elliott 2018; see also the section on authenticity below). In slight contrast to a 3D print, a plaster cast requires the maker to have been in the physical presence of the original at the point of casting (at least for making the mould for the first cast), whereas the scanning and 3D printing of objects can be several steps removed from one another. With the possibility of sharing the codes generated from scanning online, objects can be printed far removed in time and space and by people who have never seen the original that the scans are based on. Moreover, the manipulation of the scanned files also allows for the output to be altered. In its simplest form, this may involve scaling up or down to enlarge or reduce the print in size compared to the original, but it can also involve more serious alterations, essentially coming up with a new (digitally born) object. A good example of this is the New York Met Museum’s 3D mashup of Leda and the Swan and Marsyas (Figure 9.4).



Figure 9.4 Leda and the Marsyas – 3D mashup of Leda and the Swan and Marsyas – by Jon Monaghan. Museum of Modern Art Archives, New York, licensed under the Creative Commons – Attribution license.

This possibility could be seen in a negative light as distorting or misrepresenting the ‘real’ object, or in a positive one as allowing creative possibilities and new ways of experimenting, engaging with and interpreting heritage objects. Another important possibility this opens up is the reconstruction of lost or missing objects, as well as the digital ‘completion’ of broken or fragmentary ones, as we have already seen with the example of the Grant Museum’s quagga skeleton in [Chapter 6 \(Box 6.3\)](#). As digital scanning and printing technology becomes more affordable and with most 3D prints being made of relatively lightweight polymers, this can also have significant impacts on the accessibility of collections. For example, during the Covid-19 pandemic year of 2020–2021 when all classes at UCL had to take place virtually, the Grant Museum of Zoology posted 3D prints of some of their specimens to students literally all over the world (Davidson 2020) to allow them to participate in the mystery specimen activity that forms part of a key zoology module usually taught at the museum (Kador et al. 2018). Another key aspect of accessibility that 3D prints may facilitate relates to the handling of objects – where the original is too fragile – by visually impaired people (Cecilia et al. 2023) and others who would benefit from exploring objects through touch.

Space here does not permit us to pursue this discussion any further; however, readers particularly interested in the role of 3D imaging and printing of objects and/or the question of digital accessibility are referred to the further reading and resources section at the end of this chapter. The next section will continue with other non-visual uses of technology in relation to museum objects.


Non-visual approaches

With the exception of 3D printing and some state-of-the-art haptic VR applications, digital approaches to material culture largely replicate the over-emphasis on visual aspects of objects. However, a major element for facilitating object research in the twenty-first century is the availability of digital catalogues and object databases. Most of the large national and many academic museums provide access to their (digital) collections database via the internet. Therefore, they can be accessed and searched by researchers from anywhere in the world. In many cases, they provide simple catalogue-level

information about the museums' holdings, including object name, age, material, dimensions, place of origin and frequently a brief narrative description (Figure 9.5). However, there are some that also offer more advanced perspectives, such as high-resolution scans (for example, Closer to Van Eyck 2024) and transcriptions of text-based materials, 3D models or even the codes for producing one's own 3D model. From a research perspective these catalogue entries are essential to understanding and investigating an object or collection. While in the twenty-first century, we take it for granted that information about most things can be found instantly online, making museum catalogues digitally available can often entail a slow and lengthy process of digitising museum records on paper, index cards or now redundant digital formats. In some ways, we could look at the

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| | |
|----------------------------|--|
| Creator | Knights, Winifred Margaret (<i>artist</i>) (1899-06-05 - 1947-02-07) |
| Title | Roydon Mill, Essex |
| Production Date | 1919 |
| Object Category | drawing |
| Dimensions | length: 225 mm width: 290 mm |
| Accession Number | LDUCS-4980 |
| Administration Name | UCL Art Museum |

Figure 9.5 An example of a catalogue entry from the UCL Art Museum (showing a work by Winifred Knights (LDUCS-4980)). Courtesy of the UCL Art Museum.

catalogue details as the metadata of physical museum items and having them digitally available makes the life of object researchers infinitely easier, especially if they are working with collections based in other countries. This can be extended further by the fact that several larger museums around the world can now be ‘visited’ virtually, which we will explore in the next section.

Digital technologies in museums and exhibitions

The previous section showed some overlap between the use of technology for individual object engagement and that within a more outward-facing museum display and exhibition context. This section will primarily discuss how digital technologies are employed within museum and exhibition spaces to enhance the audience experience while visiting the museum/exhibition in person. Having said that, the first section explores the role of digital technologies in remotely accessing museum spaces, which may or may not form part of preparing for an actual museum visit. As Giannini and Bowen (2019, 164) have written, ‘museums are using their public stage as a space shared with visitors designed for participation and interaction facilitated by digital intermediaries from the common audio-guide to video, virtual reality, robots, visualization and sound, a model which is being extended for staging shows online’.

Virtual tours and museum visits

An increasing number of – especially larger – museums are providing online access not just to their collections of objects but also to their galleries. Especially during the Covid-19 pandemic, many museums experimented with providing virtual tours and visits to their collections while people were forced to stay at home and museums were closed to visitors. This has greatly facilitated access to the collections and museum spaces, not only during a time of museum closures, lockdowns and travel restrictions but also since then to people with specific access requirements and in fact virtual visitors from all over the world. Some good examples of this are the Smithsonian National Museum of Natural History’s virtual tours (Smithsonian n.d.) or the British Museum from Home initiative, the latter hosted by Google Street View (via the Google Arts & Culture Project, British Museum n.d.) or the Painted Hall at the Old Royal

Naval College in Greenwich, England (Old Royal Naval College Greenwich n.d.).

As museums started to reopen following the pandemic, some concerns were raised about whether virtual access to their spaces may serve to keep people from visiting in person, but it turns out that the opposite seems to have been the case. For example, online visits to the British Museum website increased dramatically during the first Covid-19 lockdown and while these figures have levelled off since then, they remain considerably higher than before the pandemic. However, this is coupled with visitor numbers largely returning to pre-pandemic levels within less than a year of fully reopening (Kennelly 2023).

It is possible that with a much more digitally literate audience, potential visitors are able to plan their visit much more effectively via the available online resources prior to arriving in person, not dissimilar to how they use navigation apps for finding directions and the most efficient travel route to a desired destination. In short, it seems that although the pandemic-era travel and access restrictions are well gone, virtual museum visits seem to be here to stay, though not as a substitute for but as an enhancement to an in-person visit. Equally, given the proliferation of smartphones, some visitors might even use the virtual tours for wayfinding while in the museum.

Personal digital devices

The final part of the history section above concluded with the development and use of personal digital devices (that is, smartphones) in enhancing the visitor experience. The most straightforward application is to provide additional information on exhibits via text-based, audio or video resources that visitors can access during their visit, for example by scanning a QR code, following a URL or via geolocation. This could simply provide greater context for a specific exhibit or connect the visitor to an audio description for the object or an audio guide for the entire exhibition. There are also instances where smartphones can be used to access augmented or virtual reality exhibits to further enhance and enliven the visitor's museum experience. For example, the National Museum of Singapore ran an immersive installation called 'Story of the Forest', which allowed visitors to explore some 70 natural history drawings as 3D animations

via an app on their mobile phones or tablet devices (Charr 2024). Taking the idea outside the gallery space, in 2021 central London was the venue of an augmented reality exhibition. After downloading an app, people could find works from the National Gallery, the National Portrait Gallery and the Royal Academy of Arts displayed ‘virtually’ in a range of locations around the city, each accessed via a QR code (Art of London 2021).

Mobile phones (or tablet devices) can also be used in a participatory way to either leave a comment about a museum or exhibition, participate in a survey or even actively contribute to a digital/interactive component of an exhibition. Some museums and exhibitions employ social media to allow visitors to interact with exhibits and one another. A good – though relatively early – example of this was the QRator programme that ran at the Grant Museum of Zoology between 2011 and 2015 (Carnall et al. 2013), which allowed visitors to digitally respond to museum exhibits (and a number of provocations) via provided iPads and their own smartphones (Figure 9.6). While the ready accessibility of mobile telephones and the internet has greatly helped the rolling out of digital technologies in museums, which are mediated through these devices, there are still many other digital applications within the exhibition context that do not rely on the visitors’ own personal device.

Beyond the personal device: interactive museum installations and displays

As already discussed as part of the historical overview above, the museum kiosk was the first digital interface for audience engagement offered by many museums. While most of the functions that kiosks served have now been superseded by the use of smartphones – with the advantage that the museum is not responsible for servicing them – interactive panels and screens still frequently play an important role within many museums and exhibitions. In particular, a growing trend in museums (and other public venues) is immersive exhibits, ‘which in addition to multimedia elements also includes live performers, audience participation, and actual objects’ (Garrand 2006, 210). Having led the way in ‘interactive’ exhibits since its foundation in 1857 – then with mechanical machinery – the London Science



Figure 9.6 Museum visitor to the Grant Museum of Zoology engaging with an iPad as part of the QRator programme. Courtesy of the Grant Museum of Zoology, UCL (photograph: M. Clayton).

Museum is still a ‘market leader’ in interactive technologies, only that they are digital now. As mentioned above, with the example from the National Scouting Museum (in New Mexico, US), larger museum-based interactive displays also facilitate visitors interacting with one another as well as with the exhibits. For example the ArtLens Gallery at the Cleveland Museum of Art uses gesture-sensing projections that respond seamlessly to body movements and facial recognition (Cleveland Museum of Art 2024). Their interactive activities are designed to help visitors explore and better understand works of art through movement, gesture and expression.

Sometimes there can be a tension between preserving historic exhibits and providing relevant and engaging exhibits for contemporary audiences. The ‘Hall of Northwest Coast Indians’ is one of the American Museum of Natural History’s oldest spaces, dating back to its first curator, Franz Boas, in the 1880s (Geismar 2018, 20; American Museum of Natural History 2024), thus representing an outdated curatorial perspective. In order to update the interpretation and include multiple more contemporary perspectives (including those from communities of the Northwest Coast) into this space, the museum introduced the Digital Totem initiative in 2016. The ‘digital totem’ was a giant interactive museum kiosk with two large touchscreens (one on either side), with ‘the homepage displaying a map of the northwest region and a series of icons depicting the various topics a visitor can explore’ (Naudus 2016). They included listening to interviews with First Nations individuals or creating a soundscape of the Northwest Coast. The totem also allowed the AMNH’s Northwest Coast collection to be explored in greater detail by zooming in on and closely examining some 30 artefacts in 360-degree view (Mu 2016). In addition to the interactive programmes of the totem, once a month an employee of the Haida Gwaii Museum in British Columbia ‘will virtually wander the hall using a telepresence robot, approaching groups to help educate them about the displays they might be looking at and answer any questions they have’ (Naudus 2016). However, it quickly became apparent that the display was in need of a more substantial overhaul and the Northwest Coast Hall was closed for redevelopment between 2017 and 2022. Its new displays were co-developed with ‘ten advisors from the Indigenous cultural groups featured in the hall’ (American Museum of Natural

History 2024). The new exhibition no longer contains the digital totem but has eight different ‘media stations’ that enable interactive engagement with the Indigenous groups featured and their traditions.

VR and immersive technologies

Some museums and exhibitions also employ virtual reality exhibits. In contrast to augmented reality apps that visitors can access through their own devices (such as mobile phones), these are entirely immersive audiovisual experiences, usually accessed through a VR headset and a set of headphones. An example of this is the ‘King of the Vikings’ experience provided at the Waterford Treasures Museum in Waterford, Ireland. This is a 15-minute dynamic 3D virtual reality experience, set in a copy of a Viking house based on excavations nearby in the grounds of a medieval monastery (Waterford Treasures 2024). Once they have settled into their surroundings, adjusted to the relatively dark nature of the Viking house and put on their VR headsets, visitors are guided through the experience by Reginald, legendary founder of the city of Veðrafjörðr (Waterford) and King of Waterford and York. The experience starts and ends in the surroundings of the reconstructed Viking house, thus achieving a blending of the real and virtual experience. While most VR experiences, such as the one at Waterford, are focused on visual and auditory engagement, there is some work on haptic and/or wearable VR, which aims to simulate the sense of touch (Wang et al. 2019), including in a museum context (Dima et al. 2014).

Reaching beyond the museum walls

Some of the examples discussed above – such as the Art of London augmented reality gallery – have been designed to allow people to explore museum collections from outside the museum walls. Earlier discussion in this book has already explored the importance of accessibility of museums and collections and how their websites, online catalogues and similar resources can facilitate this. These examples primarily entail passive engagement with the collection (from the museum’s perspective); that is, these explorations are largely visitor led, with the museum ‘merely’ providing the digital infrastructure to facilitate this. However, some museums with a more active outreach programme – that provides curricular support for

schools or engagement opportunities for people in hospitals – now supplement the traditional ‘loan box’ with multimedia and online programmes from museums. Good examples of this include ‘the Museum of Science in Boston, the Exploratorium in San Francisco and the Franklin Institute Science Museum in Philadelphia’ (Garrand 2006, 210). Again, the Covid-19 pandemic saw a major shift in how museum outreach programmes served their communities as either museums and/or schools were closed during the lockdowns and physical contact between different social groups was discouraged. Consequently, many institutions engaged in a rethink of how best to reach their target audiences, and the opportunities provided by digital technologies played a major role in this. For instance, the Royal Albert Memorial Museum (RAMM) in Exeter, England initiated the RAMM@Home programme that introduced a weekly art challenge to be completed at home. The challenges were designed to allow people to create their own RAMM collection, inspired by the museum’s Roman and Egyptian archaeology, natural history and world cultures collections and involved drawing, origami, model making, costume design and Lego. They were released weekly through the museum’s website, social media accounts and e-newsletter. However, being concerned that some local residents may not have access to the online content or art materials, the museum also created and posted out some 500 activity packs (RAMM 2020).

The UK National Archives created an online resource, using a range of images from around the world (Mauritius, Barbados, Grenada, South Africa and Scotland), along with oral history recordings, sound recordings and question prompts to inspire discussion, creative activity and learning for a multinational audience, that could be completed individually or in a group setting (National Archives 2020).

Finally, realising that visiting a museum can be a deeply social activity, which was lost to potential visitors during periods of Covid-19 lockdowns, the Ashmolean Museum, Oxford offered a range of so-called (iso)lates. They were ‘after hours’ virtual museum visits that included an online guided tour, a range of virtual museum activities and curator talks (with audience discussion) as well as social hangout spaces for individual chats and group conversations. These events were designed to feel like a behind-the-scenes museum visit or an after-hours preview – complete with exit at the gift shop – even

though participants could not visit the museum in person (Elsden et al. 2023).

A critical analysis of the role of digital technologies in object research and display

We will finish this chapter by turning to the perhaps most fundamental question concerning (digital) technology and object research. That is, what is the main role of such technologies in museums?

While digital technologies unquestionably offer unique opportunities for object researchers, museums and their visitors alike, with the general dominance of digital media across society, museums can feel under pressure to keep up with developments and increase their digital offering. This has given rise to a certain techno-sceptic perspective among both researchers and professionals, suggesting that ‘technology must be used as a medium and not as an end’ (Vaz et al. 2018, 31; Cooper 2019). Put differently, it is important to keep the focus on the objects and collections rather than getting caught up in an increasingly technologically driven and ‘gamified’ approach to them. The role of technology should be to facilitate and support object engagement rather than substitute or even take away from it. This also relates to the debate on authenticity (of objects, replicas, digital images and exhibits), which we will turn to below.

Since the early days of digital technologies in the early 2000s, there have been fierce criticisms of interactive exhibits. For example, Appleton (2001) argued that new technologies in museums have ‘undermined the quality of the museum experience’; continuing this line of argument, Griffiths (2008, 192) notes that people have a ‘less substantial, less intelligent experience than they did before the collections themselves were hidden away and replaced with new technologies’. One of the key issues that these critiques offer is the arguably growing divide between the digital and ‘real’ or ‘original’ object and at the same time a blurring of the boundaries between them. Hence, the question of what is a ‘real’ or ‘authentic’ object has seen a substantial amount of debate.

Authenticity

Many discussions on the authenticity of (heritage) objects seem to start from the assumption of a radical difference ‘between original

(authentic) artefacts and inauthentic replicas' (Witcomb 2010; Di Giuseppantonio Di Franco et al. 2018, 2). This is in the context of heritage and museum specialists having 'institutionalized authority to protect and preserve the authenticity of the past, especially in the Western world'. Di Giuseppantonio Di Franco and colleagues argue that digital heritage practices have the power to replicate infinitely the Authorised Heritage Discourse (Di Giuseppantonio Di Franco et al 2018, 1–2).

Writing over 80 years earlier about mechanical rather than digital reproduction, Walter Benjamin (2008) suggested that the process of replication devalues the original, as it is no longer unique. Others, however, disagree and argue that some of the 'aura' of the original gets transferred onto the copy as part of the replication process (Latour and Lowe 2011; Di Giuseppantonio Di Franco et al. 2018), thereby potentially even enhancing both the status and value of the original. Moreover, it has been argued that while frequently replicating the dominant discourse on heritage, 'new media, 3D technologies and the internet' can potentially also challenge this discourse and allow space to re-define the authenticity of heritage and incorporate conflicting views on this concept' (Di Giuseppantonio Di Franco et al. 2018, 1).

In short, there are somewhat opposing views on whether digital copies (as well as more traditional reproductions) undermine and take away from the original or potentially even enhance its standing and the experience of it. These debates can also highlight that traditionally accepted recording and reproduction methods, such as scientific analyses or photography of an object, can be as equally misleading as digital reproductions. 'Thus, as far as authenticity is concerned, there is a risk that scientific analyses are no less deceptive than a pretty, but undocumented, visualization' (Hermon and Niccolucci 2018, 45). For example, 'a photograph may be used to provide authority, based upon the notion of presence and seeing'. As a 'documentary witness, the photograph is held to say "look and see for yourself"' (Shanks 1997, 74). In displaying a photograph or 3D model, the producer is saying 'I was there and this is what the artefact looks like'. This authority is also attributed to the producer as someone who knows how to use a 'black box' technology to create a representation. As the process by which data is manipulated in

representations becomes more opaque due to the ever greater complexity of the technologies involved, the authority attributed to the producer increases. Garstki (2018, 75) has suggested that the ‘authority attributed to the producer of a 3D artefact model can be misappropriated in the argument for or against authenticity of a 3D model’.

Garstki further cautions that the ‘authority to create these representations is accompanied by the assumption that the data presented will be accurate to the original, in colour, shape, size, scale, etc.’. Therefore, he suggests that in order to more accurately convey the visual data and ‘avoid the assumptions of objectivity that often accompany the attribution of technological authority, we need to be as explicit as we can in how we produce these digital representations – from the decision of what 3D scanning technology to utilize to the edits we make of the final product’ (Garstki 2018, 80).

This assumed relationship between the creator of a digital model and the original brings us back to the role of the makers of plaster casts, who had to have physical access to the original to produce the mould for casting, and raises the wider question of accessibility. As already mentioned, digital (as well as physical) accessibility is a huge area in heritage research and discussing it any further here goes beyond the scope of this book. But the question of access does relate to issues concerning the ethics of working with objects and collections, which will be the focus of the [next chapter](#).

As this chapter comes to a close, I would like to turn to you, the readers, and invite you to explore some of the key benefits and drawbacks of digital approaches to objects and material culture.

BOX 9.3 EXERCISE: WHAT IS GAINED AND WHAT IS LOST THROUGH DIGITAL MEDIA?

For this exercise I would like to invite you to explore the digital presence of a museum and/or collection that you are familiar with, ideally that of a relatively large institution with a substantial digital presence, including a range of different resources. For example, the websites of the British Museum, the Smithsonian Museum of



Natural History or the Louvre should work well. The activity is most effective if you have also had the chance to visit this museum or collection in person relatively recently, but it is possible to work through the prompts more hypothetically instead.

Go to your chosen website and spend some time looking through it, exploring a range of different online resources, then make a note of the following:

- the opportunities these resources afford that would not be readily available when visiting and viewing the collection in person. Do the resources facilitate in-person engagement with the collection or provide an alternative for this?
- the elements that are lost from an in-person visit and engagement with the collection on-site when using the digital resources. What are the elements of a physical visit that a virtual experience simply cannot replace?

Now consider how the above two factors could be ideally combined, that is, how could digital media be best employed to maximise the benefits of engaging with the collection of your chosen museum?

FURTHER READING AND RESOURCES

Perhaps unsurprisingly, given the topic, there are a great deal of online and digital resources available on the role of digital technologies in collection-based work. A problem with recommending such resources is that they can frequently be short-lived, with URLs changing and links breaking. Another concern with online content is that its quality and credibility are not easily verifiable and much misleading or factually inaccurate information gets published online. However, there are some credible online sources of information that should also be available for the foreseeable future. For example, the website of the Science Museum in London (<https://www.sciencemuseum.org.uk/>) provides some good online resources, including about digital technologies, and

in particular their blog page (<https://blog.sciencemuseum.org.uk/>) contains many relevant but also fact-checked entries.

There are also some extremely valuable printed sources available on topics related to the role of digital technology for OBL, museums and in cultural heritage more broadly. Heidy Geismar's (2018) book *Museum Object Lessons for the Digital Age* provides a great introduction to many key issues and debates. Another good resource is João Rodrigues and colleagues' (2018) *Handbook of Research on Technological Developments for Cultural Heritage and eTourism Applications*, which has a range of chapters written by different experts on topics ranging from digital installations to mobile devices and augmented and virtual reality.

While there is not a single source for the history of technology in museums and exhibition making, when it comes to the development of digital approaches in this field, Allison Griffiths' (2003) work on 'Media technology and museum display', although over two decades old now, is still very useful.

The question of the authenticity of objects in light of the digital revolution and the possibilities of 3D scanning, imaging and printing technologies is a major field of research and debate. Paola Di Giuseppantonio Di Franco and colleagues' (2018) collection on *Authenticity and Cultural Heritage in the Age of 3D Digital Reproductions* is invaluable here. From a more philosophical perspective, Bruno Latour and Adam Lowe's (2011) contribution, 'The migration of the aura: Exploring the original through its facsimiles', also provides many interesting insights. Finally, while written over half a century before the idea of digital technology emerged, Walter Benjamin's (2008) *The Work of Art in the Age of Mechanical Reproduction* still holds a cunning amount of relevance for contemporary debates.

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10

Exhibition ethics

The key features of this chapter are:

- the main ethical issues to consider when working with and especially exhibiting objects;
- the role of human remains in an exhibition context;
- other key areas relating to exhibition ethics.

After reading this chapter, students should be able to:

- understand what ethics are and how they relate to museums, collections and exhibitions;
- critically discuss the main ethical considerations relating to designing exhibitions;
- show awareness of the ethical implications of working with human remains in a collection, museum and exhibition context;
- demonstrate knowledge of other/wider ethical concerns when working with objects in a public-facing settings.

This chapter will engage with the question of how to behave ethically when working with museum collections, especially in an exhibition context. It is divided in two key parts, the first presenting a general discussion of the importance of ethical practice when displaying – both physically and digitally – objects, but also in other aspects of working with objects and collections. Given the particular importance of ethical concerns in this field, the second part will be specifically dedicated to ethical issues surrounding working with human remains, including collecting, researching and displaying them. Several of the topics discussed in [Chapter 3](#) on the colonial legacies of collections have obvious ethical implications; however, that chapter focused primarily on the colonial origins of many (historical) collections, whereas here the focus will be primarily on ethical aspects linked to exhibiting objects that are already in collections.

In recent decades, ethical debates have become a major aspect of museum and collection practice. Consequently, there are a number of books and guidance documents specifically dedicated to this topic, both on museum/collection ethics in general and human remains in particular, several of which are listed in the further reading and resources section at the end of this chapter. As we have already seen in [Chapter 8](#) in relation to writing for exhibitions, clear communication has to stand at the centre of any public-facing use of objects, and one of the first things to establish clear communication is to agree on (a shared) language. This in turn begins with defining key terms to engender a shared understanding. Thus, the first section of this chapter will begin by defining ethics and ethical practice in a museum and collections context.

WHAT ARE ETHICS AND HOW DO THEY RELATE TO MUSEUMS AND EXHIBITIONS?

In [Chapter 6](#) we explored ethical considerations in relation to working with live participants in wellbeing-focused ‘interventions’. However, at that point we did not consider what ethics actually are.

The *Oxford English Dictionary* defines ethics in their simplest/widest form as ‘Moral principles, or a system of these’ (OED [2024](#)) and then

offers a range of narrower definitions focused on different contexts, from philosophy to religion, politics and everyday life. As we are concerned here with ethics in a specific context – that is, in relation to exhibitions and museums – rather than as a general aspect of moral, religious or political philosophy, perhaps the most relevant definition is ‘codes of conduct or moral principles recognized in a particular profession, sphere of activity, relationship, or other context or aspect of human life’ (OED 2024). In other words, museum and exhibition ethics represent a code of conduct that outlines the main working principles that are (relatively) widely shared across the museum sector. Perhaps in the simplest terms: ‘Ethics defines the relationship of the museum with people, not with things’ while seeking to provide a purposeful, philosophical framework for all that the museum does (Besterman 2011, 431). Or, as expressed by Gazi, ‘museum ethics are about personal commitment and a sense of moral accountability to the various groups that museums serve’ (Gazi 2014, 1).

While in the twenty-first century most public-facing organisations have ethical guidelines, ‘what is exclusive to museums are ethics discussions about the myriad ways to handle collections—from their acquisition to their use to their occasional departure’; they mostly involve ‘what museums have in storage, on exhibition, traveling, or undergoing conservation’ (Miller 2020, 25).

Besterman (2011) outlines three important aspects of museum ethics:

1. Ethics ‘must respond to an increasingly complex context for the museum, in which choices are rarely between “right” and “wrong,” but often involve informed judgment about “competing goods”’ (Lovin 1994, 16).
2. The ethical context for museums is never fixed but is continually evolving, both as a result of the intense analysis to which museum practitioners subject their own values and in response to the shifting values of the society that they serve and to which they are accountable.
3. Museums and their collections embody human relationships across the four dimensions of space and time, and there is no part of the museum that is free from ethical implications (Besterman 2011, 432).

How do museums ensure ethical practice?

Probably the first explicit expression of museum ethics came in the early twentieth century with the *Code of Ethics for Museum Workers* by the American Association of Museums (now the American Alliance of Museums, AAM) in 1925 (AAM 2000; Besterman 2011, 433), but it was not for another half-century before museum ethics really became a major talking point in the late 1970s, resulting in the publication of a set of ethical guidelines such as the AAM's *Museum Ethics*. This was updated two decades later by the AAM's *Code of Ethics* (2000) and followed by ICOM in 2001 and the UK Museums Association in 2002, both publishing documents titled *Code of Ethics for Museums* (Murphy 2016; ICOM 2017; Museums Association 2024). Since then, most national museum associations and individual museums have adopted their own codes or guidelines of ethics (Besterman 2011, 438).

According to Besterman, there are two prerequisites for the ethical museum, first that 'organizational values must be explicit and ethical' and second 'the policies of the museum should spring from such values and either incorporate or be consistent with the codes of ethics of the museum sector' (Besterman 2011, 438).

In practical terms, most museums have an ethics panel or committee – often a sub-committee of the wider board of governance of the museum – that reviews ethical issues relating to all aspects of the museum's work and ensures that all activities are in line with the museum's code of conduct. Box 10.1 presents an example from the UK Museums Association's Code of Ethics.

BOX 10.1 KEY PRINCIPLES FROM THE UK MUSEUMS ASSOCIATION CODE OF ETHICS FOR MUSEUMS

The UK Museums Association's Code of Ethics states that 'society can expect museums to':

- hold collections in trust on behalf of society;
- focus on public service;
- encourage people to explore collections for inspiration, learning and enjoyment;



- consult and involve communities, users and supporters;
- acquire items honestly and responsibly;
- safeguard the long-term public interest in the collections;
- recognise the interest of people who made, used, owned, collected or gave items to the collections;
- support the protection of natural and human environments;
- research, share and interpret information related to collections, reflecting diverse views;
- review performance to innovate and improve.

(Besterman 2002, 8; Museums Association 2024)

As can be seen from [Box 10.1](#) there is no explicit reference to exhibition, which also aligns more broadly with the focus on the large amount of recent writing on museum ethics. Of the many books focusing on museum ethics published since the 1990s, only a handful contain chapters specifically dealing with the ethics of exhibitions. This topic will be the focus of the next section.

THE ETHICS OF EXHIBITIONS AND EXHIBITING

Many (if not most) museums are public institutions, and therefore in theory all the work they do, should be to some extent in public view. However, the area where members of the public undoubtedly interact the most with the work of museums is through exhibitions. This is also the key focus – from an ethics perspective – for this book, as it represents one of the main ways how we can utilise objects to communicate ideas to wider groups of people. Consequently, the ethics of displaying and exhibiting objects will be at the centre of the discussion in this chapter.

The reasons for this focus are eloquently presented by Gazi, who states:

When objects are put on public display some of the values associated with them are opted for over others and this often leads

to heated debates among the various parties involved (museums, curators, citizens, indigenous peoples, governments or nations, collectors, art dealers and so on; cf. Warren 1999, 1). Secondly, exhibitions are very powerful representations and as such are responsible for shaping the public's perception in many, often unintended, ways. (Gazi 2014, 2)

He continues that even 'when they make claims to scientific objectivity and precision, exhibitions inevitably reflect the beliefs, assumptions and ethical values of the persons making the decisions. In this way they inevitably promote some truths at the expense of others' (Gazi 2014, 2).

According to Miller (2020), 'exhibitions convey their messages through a stand-alone physical visual medium that mixes objects, light, sound, words, architecture (existing or new), as well as graphic and spatial design elements'. Given the coming together of this broad range of media, 'even simple displays involve considerable thought about intellectual and physical content, location, appearance, and associated programming'. Many of these considerations have ethical implications and consequently, 'ethical concerns relate to all aspects of organization and presentation' (Miller 2020, 119).

Miller's list presents a useful starting point for reflecting on the various contexts within which ethics ought to be considered when displaying objects: the objects themselves, the physical display (including location, light and space) and text and or other explanatory material (including graphics and designs for the display). Below, we will consider ethical aspects within each of these spheres. However, this section will not deal with the display of human remains, which will be addressed separately in a later section.

Objects

There are several potential ethical concerns that need to be considered in relation to the selection of objects for display. Here we will explore some of the most common and arguably most important ones.

The origin (provenance) of objects

A large quantity of museum collections, especially in the West, can be directly linked to colonialism, and many of the fundamental issues

relating to the question of origin have already been addressed in [Chapter 3](#). There we considered the question of restitution, relating to museums returning objects to their community/country of origin if it can be demonstrated that they have been stolen, looted or taken under duress and/or (the threat of) violence. However, in [Chapter 3](#) we did not examine the implications of this problematic heritage in terms of deciding whether or not to exhibit a certain item. Is it ever appropriate to display museum items that are directly related to colonialism or, worse, with direct links to slavery or even genocide? We could turn this question on its head and ask what would be left if some of the world's largest museums such as the British Museum, the Louvre, the Pergamon or the Smithsonian Institution if all items linked to colonialism were removed from their displays? Visitors would have to walk past rows, even entire galleries, of empty cases before reaching either very ancient collections or modern ones about which we can say with some degree of certainty that they were not a product of colonial expropriation. What's more, especially in the UK and the US, several of the collections that would remain on display according to this rule have been donated or financed by individuals who acquired them (and their wealth more generally) through the proceeds of the slave trade and/or manufacturing weapons or other products, which in turn were employed as part of the colonial project. We will explore ethical concerns linked to the association of museums, collections and objects with certain individuals and organisations further below.

Suffice to say, in many contexts it can be challenging to identify museum objects that are entirely ethically uncontested. Also, clearly this is not a fixed situation, as perspectives and opinions among society change, as do ethical standards, which in turn can swing 'both ways'. That is, objects that once were considered inappropriate to display – such as sexually explicit works, or those that would have been seen as blasphemous – may now be acceptable (in certain contexts). In contrast, items that used to be exhibited without much concern, such as those linked to some of the aforementioned issues of colonialism and slavery (as well as human remains), may now receive a much greater level of scrutiny before being put on display. Moreover, our state of knowledge about a certain item may change with new information coming to light, which might inform

a decision over whether or not it should be displayed. The point here is that ethical curation is an ongoing process, and it is vital that issues are appropriately addressed as and when they come to light. As Miller (2020, 123) puts it, ‘ignorance of collections is not necessarily unethical but a refusal to correct mistakes when they become known is’.

Point 4.5 of the ICOM Code of Ethics stipulates that ‘museums should avoid displaying or otherwise using material of questionable origin or lacking provenance. They should be aware that such displays or usage can be seen to condone and contribute to the illicit trade in cultural property’ (ICOM 2017, 25).

Having said that, Miller (2020) and Dubin (1999) argue that objects related to the colonial project or even direct histories of prejudice, racism or violence are not necessarily always inappropriate to be displayed. ‘Times have changed for museums regarding collections they own that show derogatory racial, ethnic, and gender images. Current practice makes it more acceptable to present these when interpreted in the context of the times in which they were created’ (Miller 2020, 120). Besterman (2011, 440–441) agrees that ‘prejudice, cant, deceit, and ignorance have a place in the museum, but only within a rigorously interpreted context that enables the user to discover the damage to society that they can cause’.

Therefore, the context within which objects may be encountered is as crucial as the objects and their histories themselves in deciding what could and should (and indeed what could and should not) go on display, when and where. An ethical museum or exhibition should prompt ‘questions about the balance, perspective, and assumptions upon which ... cultural ideas are constructed’ (Besterman 2011, 440–441). In addition to the question of the origin of the object, the context must also consider the potential spiritual significance they may hold for certain people.

Objects of spiritual significance

Spiritual and sacred objects in exhibitions can be linked to any religious or spiritual tradition. There are entire museums dedicated to Christian, Islamic and Jewish art and iconography, for example, and in some contexts the display of objects connected with one of these world religions can raise ethical challenges/controversies. But

a perhaps more common ethical challenge, especially in Western museums, relates to objects that hold spiritual significance to non-Western people, many of which in turn can be linked to conflicts and colonial activities. The particular concern with the latter is that Western museums frequently employ ‘a clearly western ethos of looking at indigenous artefacts as inanimate material beings’ and thus tend to overlook ‘the object’s significance to its source communities’ (Gazi 2014, 4). Having said that, there is a growing level of recognition among many Western museums and collections of the spiritual importance of sacred objects to their communities of origin and that they consequently require a different level of sensitivity and care. This may require the performance of specific rituals or ceremonies before items can be put on display and/or inform culturally appropriate ways of how to display them so that the religious beliefs of the communities concerned are respected. Unless the museum has members of the relevant community among its own staff, it is essential that such displays are worked on in collaboration with members of such communities. Perhaps the best example of this collaborative work relates to the Te Papa Tongarewa, the National Museum of New Zealand, which incorporates Maori traditions across all of its work; this museum has published a range of guidance documents on how best to work with spiritual items (Te Papa Tongarewa n.d.).

Ownership, financial support and association

From an ethical perspective, the geographical origins of objects – especially linked to colonialism and conflict – and their spiritual significance for source communities are not the only concerns that have tainted the history of many objects and collections. What about the collections (and in fact entire museum spaces and buildings) that have been financed by the proceeds of pharmaceuticals, which in turn have been linked to a huge number of drug dependencies and drug-related deaths (Walters 2019), as well as those financed by the tobacco, alcohol or fossil fuel industries (Hicks 2020)? As many institutions have experienced since the 2010s in particular, the ‘sources of financial support for exhibitions can be lightning rods for ethics complaints’ (Miller 2020, 127), with very public demonstrations by environmental campaigners (Hicks 2020; Alting von Geusau

2022) and those campaigning against overprescription of opioids (Walters 2019).

Then there are cases where the maker (for example, an artist), a (previous) owner or donor of the material was a known racist, fascist, misogynist or a perpetrator of cruelty and – by modern standards – crimes. For example, is all of Paul Gauguin’s (1848–1903) art tainted by his well-documented sexual abuse of children in Tahiti (Tuuhia 2021; Pollock 2024) or just his Tahitian paintings, and should they be removed from display, recontextualised or neither? Again, the context of the display is vital here, and there may be situations where the works of another artist should be chosen instead and other instances where Gauguin’s work can be displayed but not the Tahitian paintings, as they could cause offence. But then again, in some circumstances, and with the appropriate level of critical narrative accompanying them, Gauguin’s Tahitian paintings may be an important element of an exhibition.

There are two interesting examples of this at UCL, where in one case a collection and in another an entire museum have been named after known eugenicists and racists. The first is the collection of objects and documentary items relating to Francis Galton, whom we already encountered in [Chapter 3](#). Galton contributed to many aspects of science, with his work having an impact to this day in statistics, genetics and forensic science. However, he is best known for establishing eugenics as a field of study and for financing a research laboratory and Professorship of Eugenics at UCL, with Karl Pearson (1857–1936) as the first occupant of the post (Challis 2013). Given Galton’s strong links to UCL, his collection of some 500 items – many of them directly linked to eugenics research and therefore scientific racism – as well as his papers and personal writings are now housed within the UCL History of Science Collection and the Library Special Collections, respectively. Initially, the collection of his objects, within the larger History of Science Collection, was known as the ‘Galton Collection’ but has since been renamed as the ‘Eugenics Collection’. I have selected one object from the Eugenics Collection as a case study to explore some of the issues surrounding the ethics of curating and displaying this material in greater detail ([Box 10.2](#)).

BOX 10.2 CASE STUDY 1: CURATING EUGENICS MATERIAL FOR EDUCATIONAL USE

As mentioned above, the UCL Eugenics Collection consists of roughly 500 items largely linked directly to Francis Galton and Karl Pearson. These include a range of relatively 'benign' objects, such as Galton's prototype of a dog whistle and printing plates for the first ever weather map for *The Times* newspaper (Figure 10.1), as well as personal effects such as his pocket watch, spectacles and coins. However, the majority of the objects in the collection relate to Galton's and Pearson's eugenics research. In Chapter 3 we already encountered the collection of photographs of Jewish boys from London's East End, which sit alongside similar images of residents of Hanwell Asylum (St Bernard's Psychiatric Hospital) in West London and Army officers from Chatham (Royal Engineers) Barracks in Kent. All of these relate to Galton's (misguided) attempts to identify inheritable character traits from people's facial features and appearance more generally.

The object I will focus on for this case study also relates to eugenics' aim to measure, classify and tightly categorise humans for the purposes of 'improving' the genetic makeup of society. It is a relatively unassuming flat silver-coloured metal box, approximately 40x10 cm, not dissimilar to a box of watercolours, and has the inscription 'Haarfarbentafel von Prof. Dr Eugen Fischer' engraved upon it (UCL Science Collection reference: LDUGC-040). Haarfarbentafel is German and roughly translates as 'hair colour chart' or 'scale'. Upon opening it there are two separate manufacturers' labels on the inside of the lid that read 'Franz Rosset, Freiburg, Kaiserstrasse 30' and 'Vereinigte Glauzstoff Fabuken A. G. Elbefeld', respectively. However, what will immediately attract the attention of anyone looking at the open box is the other side, which contains 'a selection of 30 different colours and textures of synthetic hair' (Figure 10.2; Das 2015). As Reeves has expressed prosaically, 'within this container are represented all the races of the world: A to Z - Aryan to Zulu - flaxen blonde to sooty black - smooth, wavy and "woolly" hair ... Hair hierarchy numbered 1 to 30 - Saxon to Semite: Nordic to Negro: Teuton to Turk' (Reeves 2013, 60).



Research by a group of UCL Masters students uncovered that the original owner of the box, Professor Dr Eugen Fischer (1874–1967), was a German anthropologist who has been connected to the German genocide in Namibia of 1908 (Das 2015) and the forced sterilisation of 400 ‘mixed-race’ children in the Rhineland (Reeves 2013, 60), and whose work informed the Nazis’ antisemitic Nuremberg Laws. The students’ research also suggested that the objects came to UCL’s Eugenics Collection via Karl Pearson rather than Francis Galton. This is because Pearson used the Fischer hair scale in the 1920s ‘to examine children of Russian and Polish Jewish immigrants’ and published a series of papers (Pearson and Moul 1925; Delzell and Poliak 2013) that concluded that these children are ‘undesirable aliens, inferior to the native race’ (Reeves 2013, 60).

The Haarfarbentafel is usually on display in the UCL Object-Based Learning Laboratory, where the Eugenics Collection is housed, and has also been included in a range of more public exhibitions and events since the 2010s. It invariably provokes a strong reaction – usually disgust – in people who are confronted with it for the first time. But beyond this initial response, opinions appear to be divided about the ethics of including such objects in exhibitions and retaining them in the collection in the first place. Some people feel that their existence – and UCL’s shameful connection with them – is not sufficiently publicised, while others feel that they should be disposed of. Subhadra Das, the former curator of the collection, concluded that on balance these objects ‘are worth keeping and using, even if the man they relate to is not worth celebrating. They present an opportunity to uncover stories and share them with the wider world ... one object, one class or one story at a time’ (Das 2015).

While the first case study explored ethical issues in relation to one specific object, for the second case study (Box 10.3) we will consider the ethical challenges if an entire museum or collection is overshadowed by its link to one particular individual.



Figure 10.1 Prototype printing plate for a newspaper weather map, created by Francis Galton. LDUGC-026. Courtesy of the UCL Eugenics Collection.



Figure 10.2 Dr Eugen Fischer's Haarfarbentafel (LDUGC-040), which appears to have belonged to Karl Pearson. Courtesy of the UCL Eugenics Collection.

BOX 10.3 CASE STUDY 2: SCIENTIFIC RACISM AND EGYPTOLOGY AT THE PETRIE MUSEUM

The second case study relates to an entire museum, in fact the second largest museum of Egyptian and Sudanese artefacts outside of Egypt (after the British Museum), housing some 80,000 objects, and a collection of international significance (Stevenson 2015, 2019). As we have already seen in [Chapter 3](#), the museum was founded in the 1890s with the bequest of several hundred objects from ancient Egypt by the writer Amelia Edwards (1831–1892), and the collection grew to its current size and international significance through the vast amounts of materials excavated and acquired by William Flinders Petrie (1853–1942). He was UCL’s first Professor of Egyptian Archaeology and Philology (incidentally funded by Emilia Edwards) and sold his collection of tens of thousands of antiquities to UCL in 1913. Some of this material was first put on display in 1915 (Stevenson 2015; Harte et al. 2018; Petrie Museum of Egyptian Archaeology n.d.), with the museum being named after Petrie when it was rehoused following the Second World War, in time for the centenary of Petrie’s birth. Given the extent of Petrie’s contribution to the scale of the museum – with an estimated three-quarters of the approximately 80,000 objects relating to his work (Stevenson 2015) – and his contribution to archaeology more generally, it is not surprising that the museum was named after him. However, we also know that Petrie was a racist and eugenicist who collaborated closely with Francis Galton and Karl Pearson and in fact added specific objects to the collection to facilitate the study of eugenics, at Galton and Pearson’s request (Challis 2013; see [Chapter 3](#)). Consequently, a de/renaming inquiry that was established to address UCL’s wider eugenics legacy, linked to the names of buildings, spaces and centres, recommended that the Petrie Museum should be included in this process (UCL Buildings Naming and Renaming Committee 2020). The Petrie Museum is a relatively well-recognised ‘brand name’ so changing the museum’s name would not be an easy process and could potentially also be a damaging one. The question that needs to be answered (by the committee) is to what degree it is ethically appropriate for an institution to retain the name of a person so strongly linked to eugenics and how this affects how the objects and collections within the museum are perceived.

Both the UCL case studies and the example regarding the paintings of Paul Gauguin highlight the importance of the contextual information that is provided with the displayed items, whether this relates to contextualising an entire collection or museum or providing specific contextual information as and when an object is displayed. Once a decision has been made to display an object, the next set of ethical considerations concerns the ways in which objects are displayed and encountered.

Ethics of display

The question of display has many different aspects; the discussion here will focus on two central ones: the physical spaces within which object encounters take place – including architecture, design, lighting and sound – and the ways in which objects are exhibited within these spaces.

The physical exhibition space

Museums are frequently perceived as not being the most inclusive spaces. Traditionally, as we saw in [Chapters 2 and 3](#), large national museums in particular project a sense of being institutions of authority; consequently, they can come across as intimidating. This is often further underscored by their grand and imposing architecture as well as a history of elitism (Candlin 2008). While it can be difficult, if not virtually impossible, for exhibition curators to influence the outside or even the interior architecture of the building, there may be architectural, design and ‘social’ interventions that can make a difference in an exhibition’s perceived and actual accessibility. Gazi reminds us that ‘space and design matters have an ethical dimension which is critical to the representational meanings produced in museum exhibitions, and that attention to these issues should be a concern shared not only by designers and architects, but by all those involved in exhibition making’ (Gazi 2014, 7). This is a huge area of research and work more generally, and debates often focus on improving the physical accessibility of what are often historical buildings and on helping visitors to orient themselves, especially in large museum complexes. Given this volume’s focus on working with objects, engaging with these debates further is beyond the book’s scope; however, the further reading and resources section provides some references to key contributions to this debate and to practical examples on how such challenges have been addressed.

For the purpose of the present discussion, the main point is that the physical space within which objects are encountered (including exhibited) plays a major part in how they are accessed, perceived and understood. Consequently, one of the first steps for anyone planning an exhibition has to be to reflect on how the exhibited objects will be encountered and perceived in the chosen space and what can be done to harmonise this experience with both the exhibition's message and the audience's needs. This can relate to the route visitors are likely to take around the exhibition and to what degree this should be fixed, prescribed and/or linear, or whether it is entirely open to visitors to choose where to start and finish their visit and in which direction to proceed. There is of course also the accompanying information, most frequently in the form of text panels and exhibition labels, which will be discussed below. But the placement and physical display of objects themselves also has a major role to play.

The display of objects

As with exhibition spaces overall, when it comes to deciding on the physical display of objects in an exhibition there are first some key accessibility criteria to consider. How easily visible is the object for a broad range of potential visitors, including those who are very tall or those who are of shorter stature, visitors in wheelchairs or younger children? Also, are the light levels and colour contrast appropriate to ensure that visitors with weaker eyesight can properly make out the object? However, considerations of light level must always be balanced with conservation concerns, so that the object does not fade, bleach or get damaged.

Assuming these essential accessibility requirements have been considered and addressed as best as possible, there are a range of other ethical considerations to bear in mind. This includes how objects are displayed in relation to one another. For example, in a natural history context, and especially among mammals, male specimens are frequently presented in a more dominant position compared to females (Ashby 2023). There can be similar unconscious biases concerning how objects from different cultural contexts or time periods are displayed. For instance, an exhibition may unintentionally reinforce stereotypical and preconceived notions regarding the level of advancement between ancient and more modern people (as reflected in their material culture) or people from different parts

of the world (such as Europe versus Africa). This could take the form of projecting contemporary Western stereotypes about gender relations on to past societies by linking men and women with certain objects and tasks, such as hunting, cooking and childcare. Some of these biases can link back to the colonialist history not only of many museums and their collections but also of Western science more broadly (Das 2023). While it is inherently difficult to avoid unconscious biases altogether, working both with specialists in the field and people from a range of backgrounds can help to minimise them as much as possible (see also below on multivocality).

Another area of exhibition display that can present a range of ethical issues relates to props, replicas, reconstructions and other (non-collection) objects that are employed to aid understanding of the items on display and their wider contexts. Such objects can range from a drawing that shows what the object may have looked like originally – especially for archaeological artefacts – to a full-scale, ‘life-size’ diorama of people, animals and/or landscapes. Such reconstructions or constructs are a frequent source of critique from specialists and the wider public alike and a constant source of debate among researchers and museum professionals. Recently, digital ‘reconstructions’, such as those using 3D modelling and virtual reality, have provided an additional dimension to these debates, which were discussed at length in the [previous chapter](#). Frequently, such visual (including three-dimensional) representations can generate strong and lasting impressions in a visitor’s mind. By simplifying ‘the unconventional and the complex in the interests of compelling vision’ (Smiles and Moser 2005, 6), they may ‘take on a life of their own, conveying ideas that are not explicitly stated elsewhere’ (Moser 1993, 95). Such reconstructions can also often be liable to unconscious bias, representing people in line with stereotypes and cultural tropes rather than based on actual evidence. Consequently, if reconstructions are employed, there is an ethical responsibility on an exhibition creator to inform visitors of the degree of simplification and especially speculation that has been employed in their creation (James 1999, 118; Gazi 2014, 6).

This also relates to the questions of honesty and authenticity that we have encountered at various points already, both in this and earlier chapters (and we will return to them in the next section). In particular, while it is one thing to display an obvious replica or

reconstruction, displays of what are perceived to be ‘authentic’ or ‘original’ objects can also often include a significant element of reconstruction, interpretation and speculation, unbeknown to the visitor. For example, probably more than 90 per cent of dinosaur skeletons on display in natural history exhibitions all over the world are composed of plaster (or more recently resin/polymer) casts and even the few examples that entirely consist of fossilised dinosaur bone are frequently assemblages put together from tens or even hundreds of individual fragmentary finds, believed to be (but not necessarily) of the same species. Yet very few museums or exhibitions make this clear to visitors. The same can be true for other taxonomical animal bone specimens, especially rare skeletons, or archaeological artefacts, such as reconstructed pottery vessels, clothing or jewellery. The example of the Grant Museum’s quagga specimen which we encountered in [Chapter 6](#) provides a good case study of ethical practice, with the recreated bones clearly marked as separate from the rest of the skeleton. Therefore, it is vital that there is a balance between telling a compelling story with the available evidence and an honest acknowledgement of the liberties a curator may have taken with one in favour of the other. The most readily available means to make this clear to exhibition visitors is through accompanying explanatory text, and the next section will discuss the ethical importance of factually accurate information and of employing ethically appropriate language in relation to exhibition text (see also [Chapter 8](#)).

Text and/or other explanatory material

Accuracy and honesty

The penultimate point of the Museums Association’s (2024) Code of Ethics relates to researching, sharing and interpreting of information related to collections (and the objects within them) and to reflecting diverse views as part of the process. Researching the objects in the collection under their care is the mainstay of any curator’s work. Therefore, providing as accurate information as possible about any given object, especially one that is on display, is an essential part of this. Another central element to this is transparency and honesty. That is, frequently, despite curators’ best efforts, information about objects may be fragmentary; in such cases, it is important to be open about the limitations to current knowledge about the object and the

possibility of rectifying this should additional information emerge. The most common way that information is made available to the public in relation to exhibited objects is through label text. In [Chapter 8](#) we considered the ins and outs of writing text for exhibitions and the appropriate length, language and format of such text, which we do not need to revisit here. But from an ethical perspective, perhaps the most important consideration in relation to exhibition labels is the balance between accurate information and accessibility/inclusiveness of what is written. Moreover, if there are important additional considerations about a given object that cannot be feasibly communicated in a short museum label, then it is vital to consider how and where else this information might be made available.

Museums tend to be well-respected institutions of authority among the general public (BritainThinks [2013](#)) and therefore there may be an assumption among museum visitors that everything on display is ‘authentic’ and all information provided is ‘accurate’. With this position of authority comes great responsibility, which involves highlighting the limitations of the knowledge on certain aspects and therefore the reliability of the information provided. This has led to a practice of ‘signing’ exhibitions, whereby the exhibition curators display a statement explaining ‘that the content presented represents their own thoughts and beliefs, and that it is as accurate and true as current state-of-the-art knowledge of the subject allows’ (Gazi [2014](#), 2).

Being honest and transparent about the positionality of the curators is an important step in the right direction; however, a perhaps even better way to acknowledge the multiple perspectives of any given exhibition is to ensure a range of voices are represented within the exhibition itself. In [Chapter 7](#) we saw how the American Museum of Natural History addressed this with their Northwest Coast Hall via the Digital Totem initiative and more generally co-creating the exhibits with a number of advisors from Indigenous groups. Another good example of this is the Manchester Museum’s *Lindow Man* exhibition, which included narration from seven different perspectives, including ‘the views of a local woman, a Druid priestess and the museum’s own curator of archaeology’ (Gazi [2014](#), 6; Rees Leahy [2008](#)). Another example of actively inviting multivocality relates to the *Victoria: Woman and Crown* exhibition, which was on display at London Kensington Palace from 2019 to 2020. The display involved

incorporating participatory practice throughout the planning and development of the exhibition. In particular, given Victoria's status as Empress of India, the exhibition team 'worked collaboratively with members of the local South Asian community to respond creatively to key themes and objects featured in the exhibition' (Historic Royal Palaces 2019). This resulted in the exhibition labels, written by the exhibition's interpretation manager and curator, being accompanied by alternative labels featuring interpretations of the objects on display that were composed by women of (British) South Asian heritage.

These examples highlight that through a 'process of systematically reflecting on, and assessing our ethical commitment to our diverse audiences', as well as collaborating with the most important target audiences or communities affected by the exhibition, it will become possible to 'eliminate some practices as unjustifiable, offensive, or wrong' (Wylie 2003, 13). As Gazi (2014, 7) states, 'no code of ethics or ethical standards may resolve contested issues if there is no room for mutual respect and sensitivity'. This is perhaps nowhere more relevant than when working in the most delicate and sensitive areas of exhibitions and in particular when considering displaying human remains. The ethical implications of working with the dead in an exhibition context will be the focus for the remainder of this chapter.

THE ETHICS OF DISPLAYING HUMAN REMAINS

There is a long tradition of displaying human remains in many different cultural contexts. Archaeological and historical evidence tells us that the dead were put on display in many (pre)historical and geographical contexts, including as part of public mourning rituals, ancestral rites and to show off bodies, especially the heads of enemies and executed criminals, to name but a few (Clegg 2020). In a museum and exhibition context, the practice of collecting, conserving, curating and displaying human remains can be traced back to the *Kunst-* and *Wunderkammer* of the seventeenth century encountered in Chapter 2, which invariably included at least one or several human skulls. But arguably the practice relates to the older Christian tradition of reliquaries, which goes back to the Middle Ages

(Clegg 2020). Fast-forward to the modern (post-Enlightenment) museum, displaying human remains ‘has traditionally been seen as having considerable educational potential for the visiting public, let alone their scientific interest’ (Alberti et al. 2009; Gazi 2014, 3). In fact, especially in archaeology museums and exhibitions, there is frequently an expectation by the visiting public that they will encounter human remains, such as mummified bodies in Egyptological displays. Miller reminds us that ‘Showing human skeletal or other specimens calls for special care’ but also provides assurance that the ‘remains of deceased humans are now treated quite differently in museum exhibitions than they were in the past’ (Miller 2020, 127).

Categorising human remains

Rather than working from an assumption that everyone knows or agrees on what constitutes human remains, I will begin by defining how the phrase is employed here. Clegg states that there is broad agreement that human remains are ‘the whole or parts of once living people from our own species *Homo sapiens*’ but continues that there are differing perspectives as to whether fossilised hominins, hair, nails and microscopic samples should be included within the category (Clegg 2020, 44). She also provides a helpful four-level categorisation for discussing human remains from a legal, ethical and collection’s perspective, as follows:

- the newly dead – deaths among relatives of living people;
- the recently dead – those whose identities we may know and of whom we may have intergenerational knowledge;
- the long dead – from a time when we are less likely to have any knowledge of the individual’s personal identity;
- the ancient dead – from civilisations and societies that no longer exist and are far removed from present-day societies (Clegg 2020, 46 and 60).

The final two of these four categories are frequently combined to represent the ‘archaeological dead’, which in turn tend to be treated differently from the recent dead, usually with a cut-off date – albeit a different one in many countries – separating the two. There are

clear legal frameworks and protections regarding the treatment of the newly and recent dead virtually anywhere in the world, whereas ‘the majority of countries worldwide treat ancient or archaeological human remains as part of the cultural or heritage property of the country’ (Clegg 2020, 47; Márquez-Grant and Fibiger 2011). Given these very widely shared differences in the treatment of those two broad groups, the key ethical implications relating to their curation and public display will be discussed separately and in turn.

Recent remains

In the UK, the law governing the acquisition, retention and display of human remains is the Human Tissue Act (2004). This law covers ‘all aspects of human remains including transplants, DNA analysis and display of bodies and skeletal remains’ for the past 100 years (on a rolling basis). It requires any collection that holds remains of 100 years or less to do so under licence for research and/or display purposes (Clegg 2020, 48). The idea behind the rolling 100-year timeframe is to cover the time period where it is most probable that descendants (with a close genealogical relationship to the remains) might still be alive. Thus, while the Act applies retrospectively, any remains dating from throughout the twentieth century – that may now be found in medical museums – were not necessarily collected in compliance with the legislation and this especially relates to consent for their retention. The need for the Act itself was triggered by a range of scandals in the 1990s involving UK hospitals retaining human body parts – especially those from children – without (their parents’) consent (Department of Health 2001). Moreover, there are relatively reliable patient records from many UK hospitals dating back well into the nineteenth century; therefore, it is highly possible that the living descendants of some of these patients could in theory identify remains held in a museum or collection as being of their ancestor, even though they may no longer be covered by the Human Tissue Act. Having said that, it should be added that there were a range of legal frameworks protecting human remains in the UK prior to 2004, in particular the 1832 Anatomy Act and the 1857 Burial Act, although they were reflections of their time and for example made it legal for surgeons to obtain and retain the remains of executed criminals and the poor for dissection (Cunningham 1997; Hurren

2008, 2012). This highlights that just because a practice is legal (or was legal at a certain point in time), it does not necessarily mean that it is ethical too. Most museums and professional associations of those working with human remains – such as the British Association for Biological Anthropology and Osteoarchaeology (BABAO) or the American Association of Biological Anthropologists – have strict guidelines for working with remains even if they fall outside the remit of the law.

The situation is more straightforward regarding the ‘newly dead’, where the procedure for consent and retention is very clear. In addition to the law governing their treatment, almost invariably the deceased’s own wishes, if recorded, and/or those of their surviving relatives take priority over any other considerations regarding the research or educational value of the remains. Consequently, such remains do not easily appear in exhibition contexts, as this would first require the clear and explicit informed consent of the deceased person themselves or that of their surviving relatives. However, there are instances where this procedure has been followed and the remains of the newly deceased are being publicly exhibited. One case from the UK concerns a man called Alan Billis, who following a terminal cancer diagnosis agreed to participate in an experiment concerning ancient Egyptian mummification processes. Immediately after his death in 2011, researchers Stephen Buckley and Jo Fletcher from the University of York employed an approach to mummification on Alan’s body, which they theorised was most in line with the methods used by ancient Egyptians. In order to allow longer-term monitoring of how Alan’s body would change following the process it was essential that it was retained in a stable environment. Consequently, a purpose-built glass coffin was designed that allows the regulation of temperature and humidity and within which Alan’s body has been on display in a corner of the Gordon Museum of King’s College London since 2012 (King’s College London 2012). More broadly, the Gordon Museum and a limited number of other institutions (largely those linked to teaching hospitals) continue to collect anatomical and pathological specimens for research and education purposes. However, by virtue of being accessioned to the collection, they may also be exhibited within the space or in theory form part of other exhibitions in compliance with the Human Tissue Act.

Archaeological remains

Generally (that is, in most countries) the long and ancient dead do not have similar legal protection compared to the newly and recent dead. In contrast to the remains of the more recently deceased, historical and ancient remains tend to be governed by cultural heritage legislation alongside ancient artefacts and monuments. In line with this legal context, it is very common practice to display ancient human remains in exhibitions and museum displays dealing with past cultures, such as mummified bodies in relation to ancient Egypt or bog bodies from Iron Age northwest Europe. In fact, research on this topic shows that there is an expectation among museum visitors to encounter such remains in exhibitions (BDRC 2009). Gladstone and Berlo (2011) trace this back to the formative experience for many urban Europeans and North Americans of a ‘childhood visit to view Egyptian mummies in a museum’; they argue that this ‘primal exposure to the dead body ... normalises the notion that some bodies – long dead, and from another culture – “belong” in museums’ (Gladstone and Berlo 2011, 360). Historically, their treatment has often been relatively matter of fact, treating them like a specimen or any other archaeological artefact; however, this has changed in more recent curatorial practice. For example, the *Kingship and Sacrifice* exhibition of bog bodies in the National Museum of Ireland (in Dublin, opened 2023) has a set of circular viewing bays, each containing one of the four bodies on display (National Museum of Ireland n.d.). These allow visitors to make a conscious choice to enter and look at the remains, while in principle it would be possible to view the rest of the exhibition without seeing the bodies themselves. Having said that, there are still images and video footage of the remains in other parts of the exhibition that visitors would invariably encounter. Moreover, the posters and website promoting the exhibition have the remains readily displayed, clearly highlighting that a choice was made to focus ethical considerations primarily on the physical human remains rather than photographs and videos of them.

In cases where it may not be possible to separate human remains on display from other elements of the exhibition, exhibition designers should at least provide clear notices to visitors that the exhibition includes the remains of long or ancient dead people, although this practice is far from universal. Such notices can be done tactfully, in keeping with the overall exhibition design and without the need to

provoke fear or disgust. The Mary Rose Museum in Portsmouth, for example, which focuses on the archaeological find of Henry VIII's flagship that sunk in 1545, also contains the remains of several members of the ship's crew. Signage at the exhibition entrance dedicates the exhibition to those who lost their lives when the ship capsized and informs visitors that both their possessions and some of their human remains are on display (Clegg 2020, 88–89). As with the bog bodies exhibition in Dublin, the remains of seven crew members themselves are located in a separate part of the exhibition, which visitors can choose to enter or not. They are displayed, together with reconstructions (both as static image and via digital kiosks) of what they would have looked like in life, in an exhibition focusing on the diversity on board the ship, which could be seen as a means of humanising the deceased (Clegg 2020, 89). All the examples in this section so far relate to the display of human remains from the countries within which they are exhibited. Although, as highlighted by the *Many Faces of Tudor England* exhibition (18 March – 31 December 2019) at the Mary Rose Museum, several of the crew members originally came from continental Europe. They could nonetheless be defined as having belonged to broadly the same cultural and religious tradition prevalent in sixteenth-century England. The next section will deal with the question of remains from different geographical and cultural areas.

Human remains from colonial contexts

'Displaying the bodies of cultural others for the entertainment and edification of European and American audiences long predates the institution of the modern museum, going back to sixteenth-century displays of Aztecs and Brazilian Indians in Europe' (Gladstone and Berlo 2011, 355). European explorers, collectors, medical practitioners, military personnel and others have been collecting human remains from overseas territories from the early days of colonialism in the sixteenth century right to the early twentieth century. The popularity of living exhibits and the development of museums in the nineteenth century have led to the objectification of Aboriginal and other Indigenous peoples as living 'artifact pieces', ranging from display of living people to dioramas and that of their bones and brains (Gladstone and Berlo 2011, 356). Given the timespan of these practices, these remains may include both those that can be counted among the recent

dead and those that belong to the archaeological dead. ICOM's Code for Museum Ethics (already mentioned above) specifies that human remains in museums and collections must be cared for 'in a manner consistent with professional standards and the interest and beliefs of members of the community, ethnic and religious groups from which objects originated' (ICOM 2017, 10; Gladstone and Berlo 2011). In theory, this covers both the remains of the ancient dead and the more recently deceased. However, given the fragmentary understanding of ancient belief systems – with some notable exceptions, such as that of ancient Egypt – it especially applies to the remains of people collected in the past number of centuries such as those from colonial contexts.

However, in some countries, such as Australia, North America and New Zealand, this can also relate to people who came from the same country where their remains are still held. The United States, for instance, has the Native American Grave Protection and Repatriation Act (NAGPRA), which applies to Native American remains held within the US but not to those located in other countries (Clegg 2020, 47). As there is a growing acknowledgement of colonial harm done to Indigenous communities and given the fact that many descendant communities have clearly expressed their disagreement with their ancestral remains being on public display, an increasing number of Western museums have in recent years removed such remains from exhibitions. However, there are still vast numbers in storage within institutions globally. For example, it 'has been estimated that, before the passage of the NAGPRA in 1990, the Smithsonian alone held some skeletons from some 18,000 Native Americans. Hundreds of other museums, research facilities and historical societies contain many more' (Gladstone and Berlo 2011, 359).

Therefore, the key debate concerning the remains of Indigenous people – whether they are located within the country they originally came from or were transported abroad – concerns the question of repatriation. The NAGPRA provides a legal framework for this in the US and there are similar pieces of legislation in place in Australia, Canada and New Zealand. In the UK, where a large amount of remains from Indigenous people from across the British Empire and beyond were brought to, the Human Tissue Act allows the largest national institutions holding such remains – including the British Museum and the Natural History Museum – to deaccession them from their collection in order to facilitate repatriation. Prior

to this it was generally illegal for these institutions to deaccession any of their collections (Clegg 2020, 49–51). Moreover, in contrast to the parts of the Act covering human remains from England and Wales, which only extends over the past 100 years, it extends back 1,000 years for the remains of Indigenous people in order to allow communities who can demonstrate ‘close and continuous geographic, religious, spiritual and cultural link to the remains’ to request their return (Clegg 2020, 49). There is a vast body of literature on the restitution and repatriation debate, and it is not possible to do this topic justice beyond highlighting it. Readers with a particular interest in these debates can find some key references in the further reading and resources section at the end of the chapter. The final section of this chapter will turn to a number of broader considerations regarding the ethics of displaying human remains in museums and exhibitions.

Debates concerning the public display of human remains

We have already seen several examples concerning how a range of institutions have decided to present both archaeological and more recent human remains. This section will focus more broadly on the question of whether and when it is appropriate to display such remains as part of a public exhibition. Writing on this topic, Caitlin LaPorte expresses that she finds the issue of displaying human remains in museums interesting ‘because there is no right or wrong way of going about it’ (LaPorte 2014). This seems a curious assertion, given the well-documented potential for causing offence and controversy when displaying human remains inappropriately. Hence, it would seem fair to suggest that it is in fact highly possible to go about displaying human remains wrongly, and that this in turn can have potentially serious consequences. Given these possible consequences, the ethics of and when to display human remains to the public are a hotly debated topic. This is picked up by Manon Parry, who in a recent essay on working with medical collections acknowledges the ‘growing calls to remove highly charged objects and topics from display’ and how medical museums in particular are reconsidering collection and display of human remains, including repatriation of remains or their removal from display (Parry 2020, 1). Karin Tybjerg, who curates the Medical Museion in Copenhagen, suggests that ‘the discussion of *whether* human remains should

be exhibited has overshadowed the question of *how* they should' (Tybjerg 2019, 36, emphasis in original). However, instead of shying away from displaying such 'difficult' or 'risky' materials, Parry argues that they are 'valuable precisely because they may generate some of the most intense reactions among audiences'. Therefore, she advocates an approach that involves a 'deeper engagement with these "risky" materials and the histories they represent' rather than 'simply' removing them from public view (Parry 2020, 1). So, this begs the following question: What are the guidelines and parameters for deciding on whether a given set of human remains should be included in or excluded from an exhibition?

Clegg advises that 'human remains should only be displayed if their presence is an integral part of the story being told'. 'Their role must be to educate and inform' and they 'should never be used to shock, titillate ... to make a display sexy or scary, ... or purely to generate interest' (Clegg 2020, 77, 88). This is echoed by the ICOM Code of Ethics, which adds that exhibits 'must be presented with great tact and respect for the feelings of human dignity held by all peoples' (ICOM 2017, 25). But there remains a tension between tactful display and educational value, and the question of the criteria by which the line between them should be drawn remains open. One approach is to only display remains from communities who themselves had traditions of such display, while others – such as former Director of the British Museum Neil McGregor – argue that especially large encyclopaedic museums must 'not bow to the religious preferences of any culture' but serve as a 'repository of objects documenting social behaviours' (McGregor cited in Gladstone and Berlo 2011, 362). Gladstone and Berlo conclude that 'the notion of specimenhood – whether met with anxiety or an open embrace – is an essential consideration in conceptualising an ethics of the body on display' (Gladstone and Berlo 2011, 354). In simple terms then, this is about the question of objectification and whether humans can and should ever be turned into objects of study and exhibition. Their role as 'objects' of study and thus research seems inevitable, with entire disciplines from anatomy, biological anthropology, osteology and pathology built on investigating human remains. Is therefore the logical consequence that in an effort to share and diversify access to the insights gained

through research in these fields, the wider public must also be allowed to engage with human remains through their display, provided this is informed by clear ethical guidelines? However, anyone designing an exhibition and considering the inclusion of human remains of any kind (including images of them) would be well advised to reflect on Clegg's prompts, considering whether their inclusion is in fact essential, integral to the story and that all the relevant ethical issues have been fully addressed.

FURTHER READING AND RESOURCES

I would recommend that any readers with an interest in museum and exhibition ethics start with looking at the ethics statements and guidelines of some of the main museum bodies such as ICOM (2017) or the Museums Association (2024). ICOM also published an edited book by Bernice L. Murphy in 2016 with lots of contributions by different researchers and practitioners on ethical issues and practices in museums and cultural heritage settings. There is also a *Routledge Companion to Museum Ethics* (2011) by Janet Marstine. For a shorter summary of some of the key issues and debating points, Tristram Besterman's (2011) chapter or Andromache Gazi's (2014) paper will provide helpful introductions.

Readers interested in the role of museums and collections in relation to eugenics and scientific racism might wish to read Subhadra Das's (2024) *Uncivilised* and/or Debby Challis' (2013) *The Archaeology of Race*.

Readers who wish to delve deeper into the literature concerning the ethics of displaying (and working more generally with) human remains would be well advised to consult Margaret Clegg's (2020) *Human Remains*.

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Conclusions

Learning with things, teaching with things and the future of object-based learning

The key features of this chapter are:

- the future directions of OBL;
- OBL beyond museums: embodied approaches to everyday items;
- the key lessons to take away from the book.

SUMMING UP AND LOOKING FORWARD

Congratulations, you have reached the final chapter of the book. Here we will briefly review the learning from each of the book's three sections and also consider the potential future of object-based learning (OBL), both within and outside formal educational settings.

In the book I have pitched OBL not only as a practice for studying museum objects – although most of the items we explored are indeed found within museum collections – but as a strategy for understanding the world through a close ‘reading’ of material things. The world (as opposed to the physical planet Earth) can be seen as a human construct and in this context, any given object – which has also been made and/or used by humans – can act as a microcosm for this world. Heritage items, which are mostly found in museums and curated collections, can play a particular role in this process of understanding the world, as many of them have a long and well-documented history of human interactions associated with them. This information can be inherently valuable in trying to understand the relationships between material objects and human communities. In the first instance, this seems to primarily facilitate a ‘looking back’ into the past of these relationships. However, I would argue that objects also allow us to critically reflect on our present relationships with them and one another, and therefore, by extension, create a space to make inferences about the likely future(s) of our world. However, as we have seen in [Chapter 3](#), when drawing on objects from – largely Western – museums and collections, we are not looking at a fair and equal representation of the world. There are substantial gender, class, ethnic and geographical biases baked into virtually every contemporary museum and collection. But the fact that we can readily read these issues into the collections and the objects they contain underscores the point that such collections can open up ample opportunities not only for studying and critiquing the past but also for reflecting on the present and future worlds that these collections (will) remain part of.

The focus of this concluding chapter of the book is to think about the future of OBL in the context of the broader societal changes that we are likely to witness in the coming years and decades. Therefore, the chapter serves two purposes. First, it will look to the future

of OBL and its emerging and potential future avenues, including outside the world of museums, curated collections and even formal institutions of learning. This will be done in the hope that it will help readers find their own path in taking the skills and insights gained from working through this book forward in their own future journey with material culture. Second, the chapter will also aim to provide a brief reflective summary of the main topics covered throughout the book and end with a relatively succinct conclusion.

The future of OBL

As was discussed at the start of this book, the first two and a half decades of the twenty-first century have brought somewhat of a renaissance in working with physical objects and hands-on learning in educational settings. This represents a particular step-change in higher education, which throughout the second half of the twentieth century had become ever more theoretical. The return to taking objects seriously in education has been characterised as being part of and/or paralleled by a ‘material turn’ in many other disciplines since the late 1980s, including literary studies, philosophy and the social sciences (Mukerji 2015). As we saw in [Chapter 9](#), this was also the onset of the digital era, which we are now deeply immersed in. It is difficult to predict how blockchains, algorithms and artificial intelligence will develop over the next decade or two and more specifically how they will impact the work with heritage collections, but it seems certain that they will have an increasingly profound impact on most aspects of our lives. In line with the approaches discussed in [Chapter 9](#), we can say that digital technologies have much to offer for object research and OBL more generally. But at the same time, material culture and physical objects, such as those found in curated collections, also provide a refreshing counterpoint to the ever greater proliferation of digital technologies throughout our lives. It is not entirely unthinkable that many of the practical observations and intellectual conclusions we may come to from closely looking at an object may in the future be achievable via ‘artificially intelligent’ applications. However, the very personal associations that we make when encountering an object – based on the entire wealth of our very unique prior experiences – let alone the emotional connections that we experience when engaging with material things, will not be

replaceable through technology anytime soon. Equally, the socially distributed nature of OBL, where multiple people engaging with the same item may make entirely different observations and connections and how sharing these different perspectives can enrich everyone's experience, is set to remain unique to object-human interactions.

In this context, rather than algorithms and artificial intelligence replacing the need for humans closely working with objects, I can see a growing demand for creating spaces that are free from the ever greater intrusion of digital technologies into our lives. Heritage objects and curated collections offer clear opportunities in this regard, allowing us to create settings where we turn off our phones and other devices and rely on our own senses and embodied experiences while engaging with material things. This is not an exercise in some nostalgic harking back to 'the analogue days' but a conscious practice of being present in the current moment, removing non-essential distractions and relying on our embodied understanding of the world, as opposed to those mediated by digital technologies.

Moreover, working with sometimes 'obscure' collection items, which have not (yet) found their way to Wikipedia, Google Arts & Culture or other online platforms and consequently have no digital presence to speak of, allows the hyper-digitally literate generations of learners, born in the twenty-first century, to develop vital research skills that do not primarily rely on digital resources. While the increasing amounts of digitised records and collection catalogues are making object research much easier and accessible in many respects, nothing can replace the fully immersed experience of the smell and sound of old paper when going through some nineteenth- and twentieth-century collection catalogues. Equally, the ever greater availability and affordability of high-tech digitisation equipment for 3D scanning and modelling have untold potential for democratising object research and making collections more accessible, the persistent inequities in digital accessibility notwithstanding. But at the same time, no digital representation can ever entirely replace or supersede the experience of handling and closely observing the physical object that it is based on. In short, while digital technologies are certain to transform – and in many respects enhance – the way we engage with objects, the most impactful and accessible forms of engagement with material culture seem to be those that are most direct and personal

with the least need for any additional technological mediation. Therefore, the question is, apart from the somewhat unpredictable nature of the impact of digital technologies on object engagement, what else can we say about future directions in OBL?

Changing perspectives on and within museums

As we have seen, many Western museums built the bulk of their existing collections between the eighteenth and twentieth centuries. In this context, it is appropriate to ask to what degree these collections are still capable of relating to the lives of people in the present. Many museums and their staff teams make continuous efforts to reinterpret their collections to keep them socially relevant. In a way, the emergence of OBL and the role museums play in supporting health and wellbeing (see [Chapter 7](#)), the drive to decolonise museums and their collections ([Chapter 3](#)) as well as the growing number of exhibitions focusing on environmental and climate issues can be seen within this context of redefining how collections could and should be utilised.

Apart from these ongoing efforts to rethink the ways in which their collections are employed and relevant to contemporary issues, there have been significant shifts in how museums go about acquiring objects. The practice of collecting has changed substantially with the onset of the twenty-first century and many museums now have very conservative acquisition policies, meaning that the number of items added to most collections in any given year tends to be very low. However, several museums (such as the Victoria and Albert Museum) have initiated a rapid response collection strategy. This involves acquiring contemporary objects ‘in response to major moments in recent history’ (Victoria and Albert Museum [n.d.](#)). Objects they have added since launching this approach in 2014 include a ‘Pussyhat’ worn at the Women’s March in Washington on 21 January 2017 following the inauguration of Donald J. Trump as US president, a 3D-printed handgun, an Extinction Rebellion logo, electronic cigarettes and various items linked to the Covid-19 pandemic.

The idea of rapid response collecting raises interesting questions regarding the relevance of museums, collections and their objects to current societal and geopolitical situations. Readers who have followed this book from the start will have seen – and hopefully

experienced – how (museum) objects can help to engender critical understandings of the past, including frequently difficult histories, such as that of colonialism and institutional racism as well as how we can work with objects to support human wellbeing. However, what do largely historical collections have to offer in relation to coming to terms with the present? Clearly, the way heritage collections are viewed, approached and interpreted has changed, and continues to change, over time. These changes are generally in line with changing contemporary understandings of the world, such as an acknowledgement of colonial harms, a strong white, male collecting bias and an overwhelming Eurocentric approach, as well as attempts to make museums and collections more inclusive and accessible to diverse audiences. However, with the exception of rapid response collections, museums that are primarily made up of items collected between the seventeenth and twentieth centuries will necessarily struggle – or at least have to think very hard about how – to directly contribute to twenty-first-century concerns.

A prime example of this is global climate change, with artworks such as Olafur Eliasson's *Ice Watch* highlighting the difficulty of curating global warming (Eliasson 2014). However, interestingly, as we saw in [Chapter 3](#), many natural history museums, such as UCL's Grant Museum of Zoology, have within their collections an ever-growing number of specimens of animals that are now critically endangered or even extinct. These include globally famous species, such as polar bears, Siberian tigers or the African northern white rhino. But there are also less well publicised stories of local disappearances, such as the many types of butterflies that were a regular sight in Britain 100 years ago and have now vanished ([Figure 11.1](#)) or the rapid decline of the red squirrel or the cuckoo in the United Kingdom. Therefore, object encounters with such specimens can invite discussion of very contemporary questions that will be ever more pressing in the era of the Anthropocene, which describes the current geological era that began with human influence dominating the climate, environment and ecology, roughly since the Industrial Revolution.

Given these changing perspectives, it is perhaps not surprising that museums and their exhibits have increasingly become the targets of climate justice campaigns, such as the 'Just Stop Oil' protests

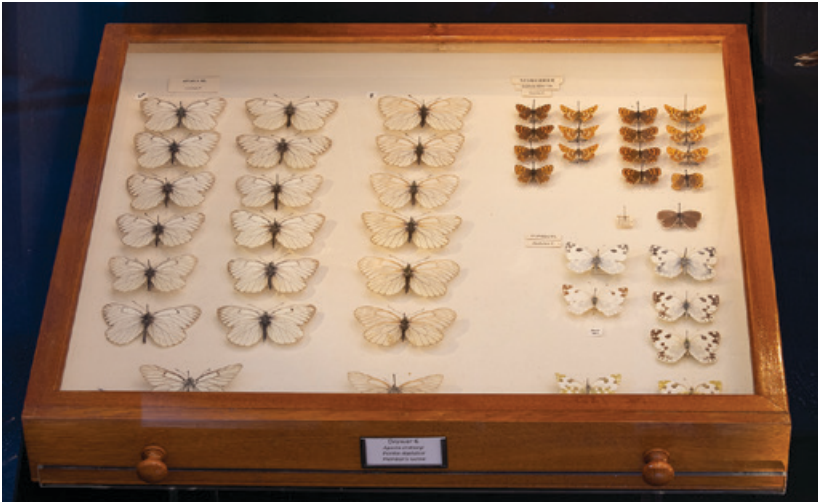


Figure 11.1 Black-veined white butterflies (right), caught readily in southern England in the nineteenth century but now extinct in the UK. Courtesy of the Grant Museum of Zoology, UCL (photograph: M. Hinkley).

involving soup being thrown at famous artworks (Gayle 2022). While the protestors' immediate reasons for these actions tend to be linked to the targeted museums' continued collaboration with the petrochemical industry (see Chapter 10), these actions also highlight that museums are perceived as socially relevant arenas where such important discourses are played out. These contemporary debates with museums and the objects they hold at the centre provide clear evidence for their continued social and cultural relevance as well as their political potency. However, it is important to return to a point made early on in this book that OBL is not restricted to museum and heritage collection settings.

OBL beyond museums

While this book has squarely positioned itself within a museum and collections context and this is clearly where the practice of OBL has emerged since around the beginning of the twenty-first century, signs are emerging of it beginning to catch on in other settings. Many of the approaches discussed in this book can be readily applied to a great variety of other – non-museum – objects. This includes slow

looking, biographical approaches and considering the biopsychosocial role such objects can play. Here we will briefly review three examples for working with more contemporary, non-museum items within a broad OBL framework.

In a recent book on object-based approaches to wellbeing, Helen Chatterjee and I have called for a broadening of the concept of ‘object’ in OBL to include found objects and natural features, such as trees or rocks (Chatterjee and Kador 2021). Several of the chapters in the book illustrate the potential importance of such natural and found objects in supporting people’s wellbeing and social and cultural connections (Laird 2021; Schaepe et al. 2021). Similarly, others have pointed out the potential learning and wellbeing benefits associated with people creating their own objects (De Nil and Janssens 2021; Jury 2021). By extension, this seamlessly connects OBL with more traditional craft and making practices, which in turn highlight recent object-based work in the realm of design and design education. A good example to this object and material-focused approach to design is the emergence of maker spaces, such as UCL’s Institute of Making and the development of materials libraries to facilitate engagement with a greater variety of material things (Miodownik 2015).

Another new departure from OBL is the recent development of material-focused and object-based approaches to ‘food objects’. While molecular gastronomy has been a subject of study for some time (Burke et al. 2016), this practice is firmly grounded in food sciences and does not really engage with the more experiential aspects of encountering foodstuffs as materials. Object-based approaches to food, on the other hand, adopt a more human-level phenomenological perspective, engaging with the ‘basic’ physical properties of how different foodstuffs present themselves to us. This does not necessarily mean a total exclusion of working with more historical collections, as highlighted by the work of Marike Hendriksen, who recreates recipes found in historical collections with twenty-first-century ingredients (Hendriksen 2019). This forms part of a wider emerging practice of performative methods in the history of arts and sciences (Hendriksen 2020), which also includes fine arts students at the University of Groningen recreating art materials (such as oil and tempera paint) from historical recipes (van ‘t Hoogt and Buurke 2020). Similar approaches can also be seen

in the medical and health humanities, where historians of medicine, medical museum curators and practising medical professionals are collaborating on the use of historical medical instruments, manuals and procedures (Mahajan et al. 2022).

In summary, there is an emerging practice of more embodied approaches to studying the world across the arts and sciences that heavily involve object- and material-focused explorations. Some of these build on working with existing curated collections, but others work entirely with contemporary objects and materials, thus mapping out a new path for object-based approaches to learning beyond the confines of museums and collections. Consequently, while there is still much scope for OBL to grow and develop within the museums and collections arena, the potentially greatest area for future growth of object-based approaches to knowledge may well lie outside these formal collection settings. But exploring such approaches in detail is not within the scope of the present volume and thus will have to be the subject of another book. What is left to do for this one is to briefly summarise and reflect on the learning from the approach advocated and explored here.

Final reflections on OBL

This final section of the book will provide a brief reflective overview of the areas we have covered and conclude, like all other chapters, with a list of resources and further readings.

As outlined in the opening section, this book is intended to be used in at least four different ways. So whether you are an individual self-directed learner and have reached this section after having worked your way through the book, chapter by chapter, an educator who has used this book as a core text for a course or module on OBL and material culture having selectively chosen a number of sections for your classes, or a cultural heritage professional who sought to integrate some OBL practices in your work, I hope that the book has provided you with what you needed. However, if it has not or you have identified problems or gaps that you would like to see addressed, please do get in touch. There is a growing community of OBL practitioners, and dialogue among them about what works and what does not is essential to enhance the practice.

Having almost reached the end of the book, it might perhaps be useful to highlight a number of take-away messages from it.

It is not about expertise

Given its highly interdisciplinary nature and the enormous breadth of areas, disciplines and subject matter that this book and the practice of OBL more generally touches upon, it is not possible for a single person to be an expert in all of them. Instead, it is important to recognise that OBL is an iterative process, that is, we learn it by doing, through deep and meaningful engagement with material objects. The key is to have confidence in the process and allow oneself to be a little ‘ignorant’ or to explore the material world through a child’s eyes (and hands), with everything being new and exciting. This can be particularly scary for educators who base their reputation on their expert knowledge. However, taking off the mantle of expertise ever so often and adopting that of an ‘ignorant school master’ (Rancière 1991) as a means to facilitate a genuine joint exploration with (other) learners about the meanings, histories, values, properties and roles of objects can be a very liberating and empowering experience. This should also provide some comfort and reassurance to novice practitioners (whether you see yourself as a learner, educator or both) that pretty much any question that arises when engaging with an object is relevant. But perhaps try and remember the advice from the Introduction that the best initial questions to ask when confronted with an unfamiliar object are those that lead to more intricate further questions, such as ‘what is it made of?’, or where did it come from?, rather than ‘what is it?’.

The historical context of collections and its political, ethical and moral implications

Chapters 2 and 3 as well as Chapter 10 discussed different aspects of the histories and legacies of the practices of collecting and the collections these resulted in, including the large ‘encyclopaedic’ museums visited by millions of people annually in Paris, New York, London, Berlin, Amsterdam and elsewhere. When working with objects that form part of such historically curated collections, an awareness of this – sometimes difficult and uncomfortable – history is essential. It has clear implications for who is and who is not represented in these collections and by extension who the institutions that house them naturally appeal to, and on the flip side who feels excluded and left out or fails to see the relevance of museums and

collections to their lives. While OBL cannot reverse colonial or other historical harms perpetuated on the global majority population, making objects accessible for direct, personal and critical engagement can form part of a process of reimagining a future that refuses to continue to perpetuate these harms and inequalities.

Remember the relationship between the properties and histories of materials

As we saw in [Chapter 4](#), there is a direct link between the properties of materials and the histories of objects. In fact, one could argue that the histories are the properties, in that any given object has taken on its present shape based on a history of natural and human-led processes, involving the interaction of a variety of forces with the material(s) the object consists of. You may recall that I went so far as to suggest that there are no objects at all, but that what we perceive as objects are materials in continuous transformation. Even the terminology we use today to refer to different things by different names – such as objects, artefacts, specimens, artworks, commodities – directly relates to these histories, in particular how different material things have brushed against the dominant epistemological frameworks of science, the arts and culture. The histories of materials are also caught up in the ways that objects are produced and used, as we saw in [Chapter 5](#), and their wider social biographies. Allowing space to consider objects and materials to have their own social lives and biographies, as considered in [Chapter 6](#), invites critical reflection on the close and frequently highly intimate connections between the lives of objects and the lives of people. This potential for intimacy and emotional bonds between humans and objects is at the centre of their biopsychosocial dimension, that is, their capacity to influence health and wellbeing ([Chapter 7](#)).

The role of objects in communicating and making sense of the world

Given the closely intertwined relationship between humans and objects, stretching back more than 200,000 years since the emergence of *Homo sapiens* (and arguably much further to our pre-human, hominin ancestors), their study can allow unique insights into human actions and behaviours. But on the flip side, we can also actively choose to use and even manipulate objects to help us communicate

certain things. The interplay of ‘passively’ studying and researching objects and ‘actively’ using them to experiment and communicate with is central to skills acquisition. On the more passive end of the spectrum, this involves close observation, slow looking and exploring through the other senses. On the more active end, objects allow us to hone our interpersonal communication skills, using a variety of modes and media, from ‘letting the objects speak for themselves’ in an exhibition context to writing about them and communicating verbally about them with others (Chapter 8). In a twenty-first-century context, an ever greater proportion of these communications will be taken up by digital media, and exploring the relationship between physical objects and digital technologies, as we did in Chapter 9, both practically and critically also represents an essential skill for any OBL practitioner. This then brings us to the beginning of this chapter and the future of OBL, given both the inevitable increasing role that digital technologies will play in object research and engagement and also that we have a choice in how we wish to engage with the world around us. We have the option of striking a different balance between the elements of our lives that are digitally mediated and those where we value our physical and embodied presence; this can relate to our engagement with cultural heritage objects in curated collections but also those with nature, food or other everyday settings. Practices such as slow looking and blind handling can serve as a reminder of this choice and the option of reducing the pace of our interactions with the world around us, engaging more deeply and meaningfully with a smaller number of things rather than trying to cover a large quantity almost simultaneously.

To finish this book, while thinking about the future of OBL I would like to introduce one final exercise, which in a way encapsulates the very essence of OBL. This exercise asks what can we tell about a person and their circumstances from a small (and necessarily fragmentary) sub-sample of their material culture? The intention of this activity is to highlight the power of objects to construct (but also imagine) histories and spark debate and dialogue. Moreover, given the simplicity of the activity without the need to access curated collections, it will hopefully also serve as inspiration to design your own object-based activities.

BOX 11.1 EXERCISE: WHAT DO YOUR EVERYDAY ITEMS SAY ABOUT YOU?

Collect wrappers, tubs and boxes of the items you use over the course of a few days (perhaps up to a week). Necessarily a significant proportion of these will probably be related to food and drink but they can also be wrappers and boxes of books, clothes or other items you may have bought or ordered; you could equally include paper receipts if they are issued for any purchases. Needless to say these items should be dry and clean so they can last for the week and do not go off, start to smell or attract pests, and of course be sure to remove any highly personal or sensitive information-bearing materials.

At the end of the collection period there are two options. You can systematically go through the pile of items yourself (following the steps below) or, usually, an even more effective and insightful approach is to allow a group of others (students/classmates/colleagues) to do the sorting, cataloguing and analysing without giving them any information. It works best with people who know very little about you.

There are numerous ways this material could be engaged with, but here is a suggestion of some simple steps that might be followed:

1. Put all the material into a single pile (for example, in the middle of a room).
2. The learners should now decide on how to best organise this pile into a number of smaller piles based on different properties of the items.
3. They could do so following a range of principles; these could be based on materials, use of the items (food, drink, stationery, clothing, and so on), chronologically (if possible) or a combination of these.
4. Look through the sorted piles individually and together interpret what they reveal about the person (people) they relate to.



Even if some of the interpretations are ultimately not correct, this exercise invariably reveals interesting aspects about yourself that you were not aware of or at least had not really considered – whether these are about social status, gender identity, personal values or simple likes and dislikes. It is of course up to the facilitator whether they reveal that these items are theirs or not or in fact ask someone else to collect their items and work with them.

Another variation of this activity is to pull out a drawer from your desk or fill a box with items either from your desk and/or your shelves and use these instead of working with waste items that you would usually dispose of (Zimmerman 2007). Or, of course, you could use a combination of the two, some ‘waste materials’ and some items that are more treasured possessions or perhaps items you would use on a regular basis.

FURTHER READING AND RESOURCES

If this book has inspired you to engage further with OBL and working with material culture more generally, then some of the publications that we have already encountered along the way might provide logical next steps.

Helen Chatterjee and Leoni Hannan’s (2015) *Engaging the Senses* provides a rich range of perspectives and examples of object-based approaches to working in higher education settings. Contributors to my own (Thomas Kador) and Helen Chatterjee’s (2021) *Object-based Learning and Well-being* go beyond the educational benefits of working with material culture and also focus on the wellbeing aspects of objects and collections. Other key texts on working with objects are Susan Pearce’s (1994) *Interpreting Objects and Collections* and Chris Caple’s (2006) *Objects: Reluctant Witnesses to the past*. For broader inspiration in writing about objects, readers could also consult *The Object Reader* (2009) by Fiona Candlin and Raiford Guins.

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