

THE ARCHAEOLOGIST'S HANDBOOK



A GUIDE TO ARCHAEOLOGY
FOR ROLEPLAYING GAMES

HELEN MACLEAN

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By Helen Maclean

Innsmouth House Press

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TABLE OF CONTENTS

	Page
Introduction	1
What is Archaeology?	3
A History of Archaeology	3
Site Formation	11
Techniques	13
Museums	26
Running an Archaeological Excavation	32
Fakes & Forgeries	36
A Geography of Archaeology	39
Example Characters	64
A Day in the Life of...	67
Famous Archaeologists	70
Equipment List	74
Further Reading	75

INTRODUCTION

The purpose of this handbook is to provide information on archaeology as a profession for use by both players and Game Masters, Keepers or Dungeon Masters alike. It provides a framework for adventures to be built upon and offers a wealth of background information for playing an archaeologist. The terms 'Character' and 'Game Master' (or GM) have been used throughout to keep references generic and not tailored to any one games system.

Here you will find background information on the history of archaeology, its origins and how it has developed into the profession it is today. Archaeological techniques of historical eras in which roleplaying games are commonly set are described to provide background information about which techniques were available when. These mainly deal with the Victorian period, the 1920s and modern-day, but there is also information on some earlier and also intermediate periods.

Information on major sites and the date of discovery is provided as well as plot hooks. Famous archaeologists that players may come across are described to enable them to be included as non-player characters (NPCs). Other sample archaeological characters are included, to provide the Games Master with ready-made NPCs and to provide additional information to the sorts of skills required for players and their characters.

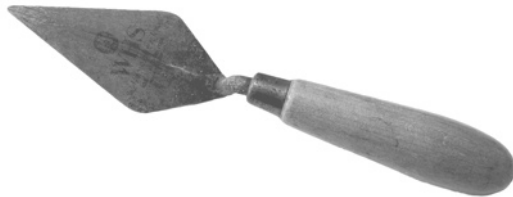
Information on some famous museums is included as well as details of how an excavation is organised. Throughout the history of archaeology fakes and forgeries play a part; the most famous of these are described and their potential use in roleplaying adventures is discussed. Finally, information on archaeological equipment is also included.

This handbook is not exhaustive. There are numerous archaeological sites across the world and it would be impossible to cover them all. For example, sites in Australasia are not covered and only major sites in Europe, the Near East and the Americas are included.

A Note on Chronology

There are many terms for describing how long ago something was. BC and AD have been used throughout as these terms are still commonly used in British archaeology.

More information on descriptions of time can be found in the *Typological & Relative Dating* section (p. 18).



WHAT IS ARCHAEOLOGY?

“What in fact is Archaeology? I do not myself really know. These have been written to demonstrate that it is This or That or not the Other Thing...I do not even know whether archaeology is to be described as an art or as a science.”

—Sir Mortimer Wheeler, *Archaeology from the Earth* (1954)

Archaeology can be described in many ways. As Mortimer Wheeler (1890-1976) suggests, it is both an art and a science. It provides information upon which hard facts and theories can be built. New sites open up old arguments long-thought settled. It provides us with information on our past and shows us how societies dealt with, or failed to deal with, catastrophes facing us today, such as environmental change and war.

Archaeology has borrowed from many disciplines, including biology, geography, geology, history and anthropology. It has developed techniques used in these disciplines to enable the analysis of the past through study of material culture.

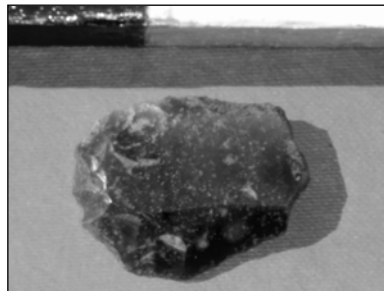
Archaeology differs from anthropology and especially palaeontology. Archaeology is concerned with the physical remains of past societies whereas anthropology deals with the culture of societies as a whole. Palaeontology deals with the fossil record of long-extinct species, most notably dinosaurs. Archaeologists do not study dinosaurs and most don't know much about them!

A HISTORY OF ARCHAEOLOGY

This section covers the early pioneers in archaeology from the earliest of times through to the formation of the profession in the Victorian period and beyond.

The Prehistory of Archaeology

It is likely that some people have always had an interest in the past. History was at one time purely verbal and members of prehistoric societies probably collected stories. It is highly likely that some people collected artefacts they found. They might not have known where they came from or



who made them and may have been kept as a curiosity. It is not too far to speculate that isolated earlier artefacts found within later sites might actually be remnants of such collections.

The earliest recorded archaeologist was Nabonidus, the last king of Babylon, who reigned from 556 to 539 BC. He excavated the temple of Shamath at Sippur down to the foundation stone to try to find out who built it. His daughter, Ennigaldi-Nanna, collected local antiquities and put them into the first known museum, located in Ur.

Thucydides (c. 460-395 BC), the Greek historian, described how the Athenians excavated graves on Delos, an Aegean island, and interpreted the artefacts in terms of the politics of their day. By the first century AD the term 'archaeologists' in Greece described actors who, using dramatic mime, recreated ancient legends on stage.

Interest in the past is recorded within many other societies in history. For example, a grave of a 5th century BC Thracian princess, found in the Balkans, contained a collection of Stone Age axes; Julius Caesar's soldiers discovered ancient tombs in Greece and Italy in the first century BC and stole the grave goods to sell back home in Rome; North American Iroquoian sites dating to the 15th and 16th centuries AD contained artefacts made thousands of years earlier. By medieval times 'magic crocks' were discovered where animals had burrowed or the ground had eroded. These were probably cremation urns. Worked flint tools and polished axes were thought to be elf-shot or thunderbolts.

This interest in the past developed into something more formal as interest in science and the arts increased.

The Birth of Modern Archaeology

The Renaissance & John Leland, Antiquary to the King

As interest in Classical Greek and Roman art and architecture increased during the Renaissance, an upsurge in the collection of antique objects among the rich occurred. By the 16th century Roman ruins in Italy were being excavated to help feed the collector's market. Excavations took place at Pompeii and Herculaneum and yielded large numbers of artefacts from 1709 onwards. Egyptian antiquities were also very popular, particularly mummies – by the

18th century mummy dissection became a public entertainment. From the 16th century monuments such as Stonehenge were studied and described in a scholarly fashion. Their origins were of particular interest.

John Leland (1503-1552) was appointed as the first and (to date) last Royal Antiquary in 1533. Henry VIII requested that Leland examine the ancient documents in all libraries held by monasteries, colleges and cathedrals, as well as to inspect the antiquities of Henry's land in England and Wales. Between 1540 and 1546 he travelled the land, culminating in his book *The New Year's Gift* (1544), which described his findings.

In the 17th century the term 'archaeology' (albeit in French) was first used as it is understood today by Jacques Spon (1647-1685), a French doctor and archaeologist, in his publication of transcriptions of Roman inscriptions, *Miscellanea eruditae antiquitatis*.

Napoleon, The Grand Tour & Antiquarianism



When Napoleon (1769-1821) invaded Egypt in 1798 his army included scholars. In the three years that Napoleon occupied Egypt, his scholars compiled a 19 volume work, *Description de l'Égypte*. This resulted in a surge of people visiting Egypt hunting for Egyptian antiquities. Many of the resulting excavations were nothing but a treasure hunt and caused immense damage to Egyptian archaeological sites. This eventually led to Auguste Mariette (1821-1881), a

French antiquarian, to persuade the Egyptian authorities to set up a national antiquities service. In 1857 Mariette was put in charge of this and acquired the sole rights to excavate in Egypt.

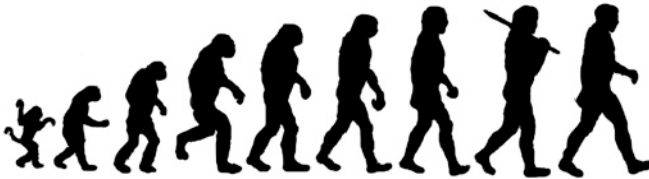
Interest in the past also took place in Northern Europe and North America. The Grand Tour was undertaken by young, rich, upper-class European men. These men did not have to work and it was seen as a useful part of their education, to learn about art, culture and history. The Grand Tour was popular from the late 1600s into the 19th century. Points of interest included Florence

for art, the Colosseum in Rome, Pompeii, sometimes the ancient sites of Greece and a number of other locations where art or history was not the main aim. Those that took part in the Grand Tour would buy paintings, sculptures and artefacts on their travels. These were displayed on their return and many of the British stately homes still contain such items. Alnwick Castle in Northumberland displays Algernon Percy, the Fourth Duke of Northumberland's (1792-1865) collection of artefacts from Pompeii, as well as from Egypt. The Grand Tour became more accessible and cheaper in the mid-19th century with the advent of the railways and was undertaken by more men and, later, a version of it was undertaken by some young ladies.

The interest of the wealthy in the past also meant that excavations took place in Europe and North America. This often took the form of excavations of burial mounds, known as barrows in the UK, by gentlemen (aristocracy, doctors, dilettantes), mainly to find the treasure contained within them. Of course no gentleman would get his hands dirty and he would employ local labourers to undertake the excavations whilst he and his friends picnicked nearby.

As a result of this rising interest, antiquarian societies were set up so that people could share their findings and promote the study of antiquaries. The most well-known of these remains the Society of Antiquaries of London, established in 1717 and which received a royal charter in 1751. In the United States the American Antiquarian Society was established in 1812.

Paving the way for Evolution



Before archaeology as a discipline could truly grow, two radical concepts needed to be accepted: the age of the earth and the antiquity of man. Until the 19th century the earth was believed to have been created by God some 4,004 years BC, as calculated by Archbishop Ussher (1581-1656), Archbishop of Armagh. This was what was in the Bible and therefore it was widely believed to be the truth. Before the antiquity of the earth could be proved, let alone the

acceptance of the theory of evolution, the way had to be paved by a number of scientists.

In 1788 James Hutton (1726-1797) came up with the *Theory of the Earth*. In this he recognised not only the wearing down of the earth but also its repair. Through the four stages he came up with, erosion, deposition, compaction and consolidation, and fracture and uplift, he demonstrated that the earth could decay and new lands could form. This gave the idea that the earth could be much older than thought. However, as this was presented only as a theory with little in the way of geological evidence, it was not widely accepted at that time.

Georges Cuvier (1769-1832), a French palaeontologist working in the late 18th to early 19th centuries, came up with the idea of catastrophism in 1796 as the reason for mass extinctions, such as the Great Flood in the Bible. This allowed the idea that species could become extinct and that new species could develop. He suggested that this had happened a number of times until the most recent creation – humans. As this fitted in with ideas in the Bible, it was more widely accepted and suggested a longer history for the earth.

In 1797 John Frere (1740-1807), a member of the Royal Society of Antiquaries, presented the results of the discovery of a number of flint tools he had found at Hoxne in Suffolk. This in itself wasn't unusual. However, Frere had noted that the tools were found below a layer of fossils of extinct animals, suggesting they were much older than it was thought man-made tools could be. After all, the earth was only 6,000 years old.



Boucher de Perthes (1788-1868), a French customs officer who enjoyed archaeology in his spare time, found in the early 1800s a number of flint artefacts in association with bones of extinct animals in several parts of France. As with Frere's ideas, this did not fit in with accepted theories of the time. De Perthes finally published the results of his excavations in 1847, *Antiquités Celtiques et Antédiluviennes*. This included two important conclusions: 1) that people had lived alongside animals which were now

extinct and 2) that the climate must have changed significantly. That people lived alongside extinct animals was shocking as, up until then, it was believed that extinct animals had been killed in the Biblical flood. De Perthes theories suggested that people had existed for a long time prior to this, thus disagreeing with the accepted history from the Bible.

In 1830-33 Charles Lyell (1797-1875) published his *Principles of Geology*. This supported Hutton's ideas but presented the idea of uniformitarianism, the idea that, rather than requiring catastrophes for changes to the land to occur (as implied by Cuvier's theory), there was gradual erosion and deposition of the earth's surface. By discounting the need for catastrophes for mass extinction, Lyell was paving the way for evolutionary theory. In addition, Lyell's work suggested to archaeologists that artefacts found at great depths must be of great age.

Once Lyell's theories became more widely accepted, Boucher de Perthes' theories became more accepted, some time after he first published his work. Further acceptance came in 1859 after established archaeologists and geologists such as Sir John Evans (1823-1908), Joseph Prestwich (1812-1896) and Dr Hugh Falconer (1808-1865), visited de Perthes' sites with Lyell, as well as the site of Brixham Cave in Devon. They discovered that the artefacts were indeed found in the contexts described and their findings were presented to the Royal Society of London in 1859-60. This information verified the antiquity of humans and de Perthes' work in turn validated Lyell's. Cuvier's theory of catastrophism was no longer recognised.

This led to the acceptance of the idea that humans were much older than had previously been believed. But if humans did not originate in the way described in the Bible, where did they come from? Charles Darwin (1809-1882) provided an answer in his book, *On the Origin of Species*, also published in 1859. While the idea of evolution had been suggested before, Darwin came up with a cause for the changes that occurred to species. This was the theory of natural selection and 'survival of the fittest'. Basically, individuals of a species better adapted to their environment would pass on these adaptations to their young, whereas those less adapted would not survive. In 1871 Darwin published *The Descent of Man* which described how humans had evolved by the same process. His theory suggested that humans and apes had evolved from the same ancestor. This led to the search for the missing-link in man's evolutionary past.

The Three Age System

Christian Thomsen (1788-1865) became the first curator of the National Museum of Denmark in 1816. He wanted to better organise the artefacts in the museum and began dividing them into what they were made of. The museum moved to a new building and Thomsen moved the different items into different rooms, named after the artefacts within them: Stone Age, Bronze Age and Iron Age. He also identified that each age preceded the next. Other museums in Europe later followed suit. The Stone Age in Europe was later sub-divided, first into two in 1865 into the Palaeolithic (or old Stone Age) and the Neolithic (new Stone Age). In



1876 a third division was added, the Mesolithic or middle Stone Age. Mesolithic was not widely used until after 1947 when V. Gordon Childe (1892-1957) used the phrase in his book *The Dawn of Europe*.

The Three Age System is mostly used within Europe. It is not always possible to apply it elsewhere in the world. For example in North America the Stone Age continued until European explorers settled there from the 15th century onwards.

The Twentieth Century

During the later 19th century and the early parts of the 20th archaeological excavation and research tended to be limited to universities and the rich. More information on the development of archaeological techniques can be found under *Techniques* (p. 13).

The Ordnance Survey was begun in 1746 when a military survey of the Scottish Highlands was commissioned. The contribution of the Ordnance Survey to archaeology began in 1920 when O.G.S. Crawford was hired as their

first Archaeology Officer. This role enabled archaeological sites and other points of interest to be noted on the Ordnance Survey maps. Crawford also added new sites that he had discovered to the maps. While archaeological sites on modern Ordnance Survey maps tend to comprise major sites, earlier editions often indicated find spots of armour, weapons and even skeletons.



Between World War I and II archaeology became increasingly popular as large excavations, such as that of Tutankhamun's tomb in 1922, caught the public imagination and interest in the past reached new levels. Labour was cheap due to the Depression of the late 1920s enabling large sites to be excavated. The other key factor of this period was the use of archaeology for nationalism. Nazi

Germany undertook archaeological excavations in attempts to prove that land was originally German and that invasion was actually reclamation. The swastika was originally an Indo-European symbol which was seen as lucky, and was also used in Greco-Roman art and in the Baltic region. It was repurposed as a symbol of the Aryan race and adopted by Hitler's National Socialist German Worker's Party. Where the swastika was found the Nazi party argued it meant the land was once German. As a result archaeology was publicly funded and of great interest to the general public. Rallies for Prehistory were held and archaeology was taught in schools.

Following World War II archaeology followed a similar pattern to the inter-war period. Excavations were largely for research and funded by universities and museums. There were, however, some changes. In the UK and other parts of Europe the results of the war led to an increase in development as bombed cities were rebuilt and new 'homes for heroes' constructed. This development, and that which followed over subsequent decades, led to the discovery of archaeological sites. Initially these were excavated by the usual suspects (museums and universities), as well as local societies formed to investigate the archaeology of an area.

The work undertaken by museums and universities on sites found during construction slowly began to be undertaken by more formalised archaeological organisations and companies. Initially this was what is termed 'rescue

archaeology', designed to make sure sites uncovered were excavated and recorded properly before their destruction. Some of the major UK archaeological contractors, still in operation today, were established in the 1970s.

During the late 1980s and early 1990s archaeology began to become more formalised within the development process. In the UK at least Planning and Policy Guidance on archaeology and the built heritage was published in the mid-1990s (PPG 16) which stated that archaeology should be a material matter for consideration in the planning process. The county



archaeological units established in the 1970s and 1980s began to expand and commercial units were established. Most counties now have a County Archaeologist, or similar, who ensures that archaeology is protected and recorded before developments take place. Archaeological excavators, although often university educated, are usually employed on short-term contracts and pay is poor. Other roles include finds specialists, geophysical surveyors and archaeological consultants, who assess sites prior to development and liaise with the County Archaeologist on behalf of their clients.

SITE FORMATION

Houses, towns, farms and other types of sites are only rarely preserved in their entirety and disappear from view above ground in a variety of ways. Usually settlement sites are either abandoned and decay or else new structures and buildings are built on top of them. This section covers how sites are formed and what the evidence left behind looks like.

In essence, different phases of work in antiquity at a site affect those that preceded it. As an example consider an Iron Age roundhouse surrounded by a ditch. A roundhouse is made up of a series of posts which would hold up the structure of the building and support the roof. A drainage ditch may be dug around it. Around the house a wide ditch may be dug to keep animals out. Later the owner decides to fence his ditch and postholes are dug into the base of the ditch. His family grows and he adds an annex to the house. His daughter grows up and marries so a house is built for her family next door.

This relatively simple example shows how evidence can be built up over time. Once the site is abandoned it might be reused by later generations, perhaps hundreds or even thousands of years later. Eventually it might be used for agriculture and any above ground remains would be ploughed away.

For the archaeologist looking at the site later all that would remain is an infilled ditch containing postholes at the bottom; narrow round gullies with shallower postholes just inside it and perhaps the remains of a rubbish pit.

Often, the remains found below the ground surface are relatively shallow. The main reason for this is not because people in the past used only shallow foundations but because the ground surface has subsequently eroded away. Foundations, whether for post holes or stone built structures, are dug down from the ground surface to the required depth. These cut through the layers of soil in between. As the upper levels of soil erode, through ploughing, natural action or other effects, only the remains cut into the lower layers survive. Therefore, when material overlying the site is removed, sometimes only ephemeral, shallow evidence is seen.

Some sites are not ploughed away and survive as earthworks. These are above ground remains of past use of the land, what might be called “lumps and bumps” on the landscape. These may include massive funerary remains such as long barrows dating to the Neolithic, to ridge and furrow, the remains of medieval ploughing. The amount of survival of earthworks depends on a huge variety of factors, but usually what has happened on the land in the interim.

Towns, cities and other urban areas are often built up by building upon earlier evidence. In a densely populated area it is easier (and usually cheaper) to knock a building down and build on top of its foundations than it is to clear a new area on the edge of a town and build there. As with today, living in the centre of a town or city was preferable to living on the outskirts. Often the urban fringe was used for specific activities that might not be nice to live next to, such as industrial activities or slaughter houses.

Disasters may also necessitate the construction of new buildings on top of old ones. Fires or floods will add a layer of material that may have been easier to build upon than clear. In this way layers of construction can be seen during archaeological work. One relatively recent example of this is the rebuilding of San Francisco after the earthquake in 1906. The city was rapidly rebuilt following the disaster to re-home the thousands who had lost theirs and as a

consequence much of the post-earthquake city was built on the rubble. As well as housing, the Panama-Pacific Exhibition of 1915 was built on an area where rubble was dumped. Houses in this area were later destroyed following an earthquake in 1989.

As a result, an important development in archaeology was the concept of stratigraphy, the study of the different layers of deposits. The law of supposition states that the oldest layers are at the bottom and the younger layers are at the top. This is important in archaeology as the identification of different layers can help to date other layers, a technique known as relative dating (see below for more information). In addition, techniques used to excavate the site can impact upon whether these different layers are seen or not (see *Techniques*, below).

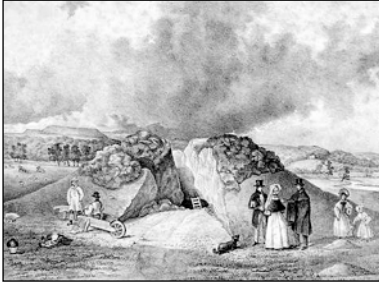
TECHNIQUES

This section covers the different techniques used in archaeology right up to the modern day. As science advances there are more and more techniques developing for use in archaeology and other techniques, once common, are now no longer used. Therefore this section is not exhaustive. However, the main techniques are covered, along with their development, so you can ensure your 1920s character doesn't try using ground penetrating radar!

Excavation

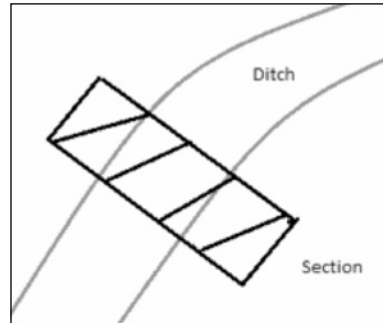
The earliest form of archaeological excavation was to simply dig a hole straight down the middle of the feature of interest, such as the middle of a mound. This was to recover as many artefacts as possible and there was little interest in the way the feature had been constructed, although if walls or other features were seen they were usually noted. This is what is known as arbitrary excavation. This is basically the removal of soil by any method possible, usually the easiest, or through removal of soil in defined thicknesses known as 'spits' (e.g. a layer of soil 2 inches thick is removed to see what is underneath it and then another 2 inches is removed, then another).

The alternative form of excavation, which was developed in the late 19th century, is stratigraphic excavation. This is where archaeological features are removed in turn, so that the fill of features such as ditches or pits are removed, revealing the shape of the feature.

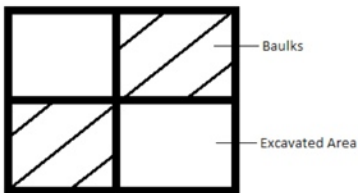


As discussed, the earliest form of excavation was to simply dig a hole to find the treasure. This was followed by the excavation of a more formal trench. Barrows were often excavated in this way; a rectangular trench was cut down the centre so that the layers that made up the barrow could be seen and artefacts recovered.

As interest in stratigraphic relationships increased techniques were developed to gain the most information. General Augustus Henry Lane-Fox Pitt Rivers (1827-1900) led the way with stratigraphic excavation. He came up with a method to allow sections of remains of banks and ditches to be recorded. A section was excavated through the bank and ditch and excavated completely to the natural subsoil. However, Pitt Rivers more often removed soil in a succession of layers so that pottery and other artefacts could be recorded exactly.

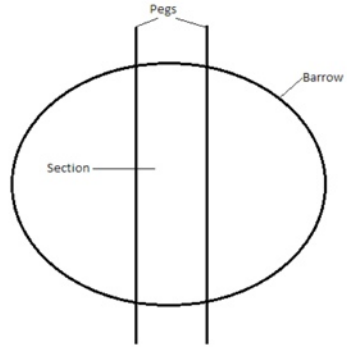


One of the first excavation manuals was published in 1904 by William Flinders Petrie (1853-1942) (*Methods and Aims in Archaeology*) but this did not include much reference to stratigraphic excavation. It was not until J.P. Droop (1882-1963), a British archaeologist, published *Archaeological Excavation* in 1915 that diagrams showing examples of how different levels related to one another were included.



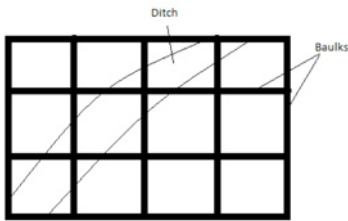
In 1916 A.E. van Giffen (1884-1973), a Dutch archaeologist, came up with a different strategy for excavation. This was the quadrant method. A site would be divided into segments and alternate segments would be excavated.

This would leave baulks, or linear embankments, of soil where stratigraphy could be seen, although it wasn't always recorded. Mortimer Wheeler (1890-1976) used what is called the strip method to excavate barrows. Two marker lines would be placed to allow a 'slice' of the barrow to be removed, layer by layer.



The strip method was used on barrows and comprised the removal of layers of

soils in strips between pegs. The pegs were laid out in two lines and the area between each parallel pegs excavated to remove a strip of soil, until the entire length of the feature was removed. This was still an arbitrary method of excavation as it did not follow the archaeological layers but instead set depths of soil were removed. The grid method entailed the creation of a grid across the site. A grid of baulks were left in place and the squares in between were excavated. Like the quadrant method this allowed for stratigraphic recording to be undertaken. The baulks of the grid would eventually be removed.



However, arbitrary excavation was still used in other parts of the world. In the United States in the 1930s arbitrary layers were removed, although some excavators, such as A.V. Kidder (1885-1963), an American archaeologist, followed contours of stratigraphy in his excavations.

These methods continued in use until the 1960s when open-area excavation was undertaken, and this method is still in use today. In open-area excavation, topsoil and any overlying subsoil are removed to reveal the archaeological features. Each of these is excavated in turn, and then sections of the features are recorded.

Whether for research or in advance of development, the most common method today is for the removal of topsoil (the topmost layer of soil, usually the richest in organic matter and best for plant growth) and subsoil (the layer or layers of soil beneath the topsoil and overlying bedrock or other geological deposits) – either by machines, such as a 360° excavator or JCB, or by hand – and analysis of the archaeological features found cut into the ‘natural’ subsoil. Note that the term ‘natural’ means very little to geologists! Archaeologists use the term to talk about layers of soil not affected by human activity, whereas geologists see the majority of soils and other deposits as natural. These features are then sampled by hand to sufficient levels to ensure that the form, nature and, where possible, the date of each feature has been identified. The amount excavated varies upon a number of factors but as an example, 10-20% of ditch features and 50% of pits or postholes are usually excavated at commercial sites in the UK. This amount varies from feature to feature as well as to site to site, depending on circumstances.

On occasion arbitrary layers or spits are still removed where stratigraphic layers are not identifiable. This includes sites of hunter-gatherer occupation where no permanent structures were built or at sites where a spread of material may over-lie other archaeological features. This technique is still used more commonly in the USA than in other areas.

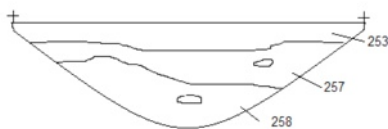
Recording

Historically, the nature and quality of archaeological records often very much depended upon the inclination of the excavator. Often, nothing was recorded at all and only artefacts were recovered. Some excavators made drawings or sketches.

General Pitt Rivers, working in the 1880s, led the way in the recording of archaeological excavations. He kept detailed records of what he discovered, including drawings, and produced reports of the results of his excavations. He also made a contour survey of the site before he started excavation. Pitt Rivers also recorded the location of artefacts in three dimensions – the elevation of the find spot was taken and measurements to other locations on the horizontal plane were made. This is still done today for some artefacts although since the 1930s the find spot is related to an archaeological layer or context.

Mortimer Wheeler was also notable for producing the first section drawing at one of his British sites in the early 1920s. A section drawing is a drawing of the

side of a trench or an individual feature which shows the different levels of soil and any artefacts, stones etc. within it. Imagine a slice of cake. If you drew the side view of the slice different layers of cake, cream and jam would be seen. In an archaeological excavation the layers are made up of different soil deposits. Before this, reconstructions of the soil profiles were made. Some of these were, presumably, inaccurate.



In the 1930s, excavating at Maiden Castle in Dorset, Wheeler made another landmark decision – he began to number the layers of soil seen in the section. One of Wheeler's students, Kathleen Kenyon (1906-1978), later used this idea of numbering stratigraphic layers to include archaeological features such as pits and ditches, not just natural subsoils. The technique became known as the Wheeler-Kenyon method, which involves excavation of a series of 5x5 metre squares within a larger grid, leaving a 1 metre wide baulk of earth.

Prior to the 1960s written records often consisted of a diary and notes describing what had been found. Since then all archaeological features and stratigraphic layers are numbered and are called contexts, in the UK at least. Detailed records of these are kept and each context has a record sheet. This allows the relationship between archaeological features to be examined. Pre-printed record sheets or forms are used to ensure all the required information is recorded. Plans are made of the features on each site and sections of each feature are also drawn.

Typological & Relative Dating

Before the advent of scientific techniques to allow for absolute dating of archaeological features and finds, artefacts were dated mainly through typological dating and sites themselves were dated through relative dating.

Within archaeological reports a series of letters will be seen after a date. These include the following:

- BC** – Before Christ
- AD** – Anno Domini (Latin for “The year of our lord”)
- BP** – Before Present
- BCE** – Before Common Era (equivalent to BC)
- CE** – Common Era (equivalent to AD)

BC and AD are still widely used and while BCE and CE are relatively new terms that are becoming more used, particularly in North America. They are used to remove the religious element from the division, although Christ’s birth is still used as the cut-off date. BP tends to be used more for scientific dating and radiocarbon dates are always referred to in this way. Note that the “present” referred to is actually taken to be the 1st January 1950, due to the nuclear tests undertaken since then, which have interfered with the radiocarbon dating technique.

The basis of creating typologies is to examine the form of an artefact type and essentially follow the evolution of the design. Typological dating is undertaken to date artefacts based on their type. A great deal of work has been undertaken to create typologies of artefacts – of pottery, stone knives, bronze axe heads etc. Once a typology has been established artefacts can be assessed against it to work out when it was made, based on stylistic comparison.

Relative dating is a technique which relies on the law of supposition. This law states that the oldest layers of ground are at the bottom and the younger layers are at the top. This means that different archaeological layers can help to date others. For example, if a pit is cut into a ditch, it must be later in date than the ditch. Similarly, if a datable coin is found in a layer below a piece of undated pottery, it suggests that the coin is older than the pottery.

Scientific Dating

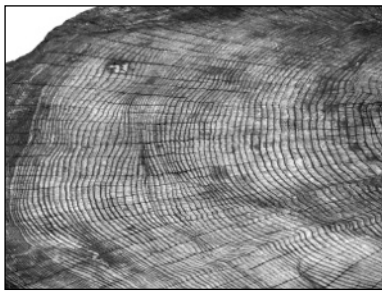
There are many methods of scientific dating which can be used to date a wide range of materials. Most of these techniques came into popularity after World War II.

The best known of these is radiocarbon dating. This radioactive dating method using the carbon-14 (C14) isotope was discovered by the American chemist

Willard Libby and his team in 1949. C14 forms part of the carbon cycle and is therefore present in all living things. The dating technique works through measuring the amount of radioactive carbon-14 left in organic material once the living thing (a person, an animal, a tree etc.) died, as C14 is fixed at death. Essentially the technique works through the measurement of the time that has elapsed since the carbon ceased to be part of a living thing. As C14 decays at a constant rate (it loses half its activity every $5,730 \pm 40$ years) the date at which the living thing died can be determined.

There is a cut-off date for measuring radiocarbon. In very old items the amount of carbon-14 left is so small that it cannot be measured. The cut-off date for radiocarbon dating is around 30-50,000 years ago. In addition, items after the 1950s cannot be dated accurately due to the increase of radioactive material in the atmosphere following nuclear tests.

It was discovered in the 1960s that radiocarbon dates are not fully accurate and have to be calibrated by comparison with known age items from dendrochronology and the rate of radioactive decay. This why dates are given in a form such as $3250 \text{ cal BC} \pm 500 \text{ years}$.



Dendrochronology uses tree rings for dating. In the early part of the 20th century A.E. Douglas (1867-1962), an astronomer based in Arizona, began examining tree rings to see if they could help identify sun spots. While they did not help with this he did note that different years produced different-sized rings, depending upon the climate of the year it was laid down. In 1916 Douglas began

analysing samples of wood from an archaeological site of Aztec ruins in New Mexico and he was able to differentiate dates between two samples by comparing their similarities and differences.

Analysis of rings within distinct geographical areas has allowed chronologies to be built up through comparison of modern samples with older wood where the dates are known. The chronology in the UK and Europe has been worked back to 8,000 years BC.

There are a large number of other scientific dating techniques available. The main ones are summarised here but other techniques are available.

Archaeomagnetism – Fired clay retains the earth's magnetic field at the time it was fired. By comparing this to known changes in the earth's magnetic field over time, fired clay products, such as pottery, kilns and clay bricks, can be dated. The earth's magnetic field also changes with latitude so information used for sites in the UK cannot be used in South Africa, for example.

Amino-Acid Racemization – Amino acids (the building blocks of protein) in bone can be measured using techniques originally developed for medical purposes. As amino acids change form over time (known as racemization) at different rates the amounts can be measured and age determined.

Thermoluminescence (TL) – A technique used to date pottery and, more rarely, flint tools that have been heated during manufacture. Pottery contains very small quantities of radioactive matter which knock the electrons in the clay out of alignment. When clay is heated to over 380°C these electrons are realigned and light is emitted. By measuring a combination of the light given out and the amount of radioactive material present the time elapsed since the clay was fired can be worked out.

F-U-N – measures amounts of fluorine, uranium and nitrogen in bone to determine age. However, this is a relative technique that can only be used to determine whether items are older than another item or not. Fluorine and uranium cannot be analysed in material less than around 10,000 years old and nitrogen can only be found in younger objects. This technique was used most famously used to determine that Piltdown Man was a fake (see *Fakes & Forgeries*, p. 36).

Aerial Photography

The first aerial photographs were taken from manned balloon flights. The advance of the aeroplane in the early part of the 20th century led to increased use of aerial photography, particularly by the military. O.G.S. Crawford (1886-1957), who worked for the Ordnance Survey as their first archaeologist, had flown as a military observer during World War I and



realised the potential of the technique for archaeology. In 1928 Crawford published a book, *Wessex from the Air*, which contained over 300 aerial photographs, many of previously unknown archaeological sites. However, an 18th century antiquary, William Stukeley (1687-1765), noted that outlines of buildings could be seen growing “as easily discernible in the corn as upon paper”.

The first aerial photograph was taken in 1858 over Paris, from a hot air balloon. It was taken by the French photographer and balloonist, Nadar (1820-1910). The first aerial photograph of an archaeological site was taken in 1899, showing excavations within the Forum in Rome. Stonehenge was the first British archaeological site to be photographed from the air, in 1906, by Lieutenant Philip Henry Sharpe of the Royal Engineers Balloon Section. Stonehenge is located on Salisbury Plain, large parts of which are owned by the military. The photograph shows the difference in the management of the monument compared with today (an internet search for “Stonehenge first aerial photograph” should produce the image).

Archaeological features show up as cropmarks and earthworks. Cropmarks can be seen within planted crops, arable fields rather than pasture. Buried archaeological features such as ditches will allow crops to grow deeper roots and therefore grow taller. Conversely, buried features such as walls or stone will stunt the growth of crops. The resulting shapes that can be seen within the crop are what are known as cropmarks.

Earthworks are the banked remains of archaeological features. They may be stone or earthen in their core. They tend to survive better in areas that have not been ploughed. However, in the UK at least, the ploughing methods used prior to the 1960s enabled earthworks to survive even within some arable fields.

It is worth noting that aerial photographs do not just show up archaeological features, but also geological ones. Certain methods of ploughing may also appear at first glance as archaeological features. A practised eye is needed to fully interpret an archaeological landscape from aerial photographs.

There are two types of aerial photographs, vertical and oblique. Vertical photographs are taken looking directly down towards the ground. Features on them are relatively easy to map as a result. Pairs of photographs, with a large degree of overlap, can be viewed stereographically to show the landscape in

three dimensions. Oblique photographs are taken at an angle. Archaeological features, such as earthworks, are easier to view on oblique photographs, as shadows are usually emphasised. However, features are harder to map and photographs need to be rectified to correct distortion in the image caused by the oblique angle.

Geophysical Survey



Geophysical survey has been used since the 1920s for engineering and geological purposes. Electrical resistance (see *Resistivity*, opposite) was first used for archaeology in 1938 by Hans Lundberg and Mark Malamphy in Williamsburg, Virginia, although the first use of the technique is often incorrectly attributed to RJC Atkinson in 1946 in Dorchester. The

magnetic techniques were first used in 1957 and 1958.

Geophysics became of wider interest during the 1960s. It was first taught as a course at the University of Bradford in 1971. The archaeologists at Bradford developed equipment specifically for archaeological geophysical survey. It wasn't until the 1990s that the technique became more widespread and it is now commonly used in archaeology.

There are a number of different methods of geophysical survey. The main types used in archaeology are magnetic survey, resistivity and radar. Both magnetic and resistance techniques are undertaken using hand-held machines.

Magnetic

Magnetic survey involves measuring the magnetic response of the ground. Buried features react differently to the surrounding area showing up as areas of high or low magnetic response. Buried soil-filled features, such as ditches and large pits, have a higher magnetic response as the soil within them has been disturbed. Features such as hearths and kilns also have a high response.

Magnetometry works by measuring disruptions to the magnetic field – filled-in features such as pits or ditches have a greater response than walls or roads because of the magnetic response of soil as opposed to building materials.

Resistivity

Resistivity involves putting an electrical current into the ground and its response to buried features is measured. Resistivity is related to the moisture content of buried remains. Porous materials, such as bricks in walls, have a higher response and features such as pits and ditches have a lower response, as they hold on to more moisture.

Ground Penetrating Radar

Ground Penetrating Radar (GPR) allows for a three-dimensional view of a site. It only really came into use in the 1990s. The technique uses an electromagnetic pulse which records buried features. The depth of buried features is measured by how long the response takes to reach the surface. The buried features can be plotted in various ways, including slices of buried surfaces. It is undertaken using a machine pulled along on a buggy.

It should be noted that geophysical survey will also find features of a non-archaeological origin. Because it measures a response to changes to the soil, it can also find geological features and more recent man-made features such as pipelines and field drains.

Metal Detectors

Metal detectors are often used to find archaeological artefacts buried below the surface. They were first developed in the 1930s but not commonly used until later. They are used on archaeological sites and by interested amateurs who search the land for archaeological finds. Use of metal detectors is legal throughout the UK as long as the landowners permission has been obtained and the land isn't otherwise protected. In other parts of Europe permissions are needed. Some metal detectorists ignore the law and are known as 'night hawks'. They undertake survey on archaeological sites without permission and damage the archaeology.

Historic Mapping & other Documentary Sources

Analysis of historic maps is a very accessible method and does not require specialist equipment. Maps were created in the past for many reasons: for ownership purposes, to show who owned which field, and to show land use – whether fields were under crop, pasture or some other use. Maps were also made of city and town centres and, at a larger scale, of counties in the UK.



The earliest surviving maps tend to be of the big cities. London, for example, has maps surviving that date back to the 1600s. In most areas of the UK, 17th or 18th century maps are the earliest that are found.

As a consequence of showing land use, some surveyors would show points of interest within the ownership of their client. This included antiquities. For example, if buried artefacts had been uncovered the find spot would be marked, or if a mound was noted this may be marked as a barrow.

Historic maps such as these are useful to the archaeologist for many reasons. First of all, they provide a record of changes to land use. By examining maps spanning a long period of time changes to the landscape can be seen, such as alterations to field boundaries, buildings of which there is no surviving trace or the change of use of a field from woodland to arable.

There are clues in historic maps, such as strangely shaped fields, parish boundaries that do not appear to follow anything, or that seemingly wiggle around nothing, isolated clumps of trees, stray ponds etc. These can indicate past settlement or a use for the land no longer visible on the ground.

In the UK, for example, the most common types of maps are as follows:

- **Estate Maps** – these are maps commissioned by a landowner to provide a record of the land under their ownership.
- **Tithe & Enclosure Maps** – Britain went through a period of enclosure of land during the late 18th/early 19th century. As part of this process the land was assessed to see ownership and land use.

- **Ordnance Survey** – The Ordnance Survey was begun in 1747 when William Roy was commissioned for a military survey of the Scottish Highlands, following the recent Jacobite rising. The Board of Ordnance then commissioned military mapping of other parts of the UK, starting in the south of England. Kent was completed in 1801 and within 20 years about a third of England had been mapped. Ireland was surveyed next and was published by the mid 1830s. The rest of the UK followed and an Act of Parliament of 1841 (the Ordnance Survey Act) gave surveyors the legal right to enter land. Mapping continued through the mid-1800s and then original maps were resurveyed. This process is carried on today.

Field Walking

Field walking is the systematic collection of artefacts from the surface. It is usually undertaken in a recently ploughed field as the action of ploughing churns up the soil, bringing artefacts to the surface. The field is walked in a grid pattern, usually by a group of surveyors, to ensure that all areas are covered, and surface finds recorded. This is a non-intrusive method of finding artefacts. When artefacts are found they are collected and their position recorded. Clusters of artefacts can indicate that features may be present underneath the ground surface.

Earthwork Survey

Earthworks survive as the “lumps and bumps” of the landscape. They are recorded through a measured survey using, initially, tape measures and pins and, more recently, electronic levels and a measuring staff.

Environmental Archaeology



Environmental archaeology considers the evidence of past environments. Analysis is made of a variety of ecological artefacts or ‘ecofacts’ to determine what the environment was like when a site was in use or even the land use. A number of types of evidence are regularly examined. These include pollen grains, snail

shells, animal bones and plant macrofossils. By examining pollen the types of plants in the area of an archaeological site can be determined. If for example a lot of tree pollen is discovered it can be inferred that the archaeological site was surrounded by woodland during its use. Analysis of pollen was pioneered by Lennart von Post, a Swedish botanist, in the early 1900s. Determination of snail or animal species present can indicate the environment by knowing what sort of habitat those species live (or lived) in.

Sampling for this sort of evidence (sometimes known as palaeoecological or palaeoenvironmental evidence) is undertaken through the collection of samples from the type of soils where preservation is likely to be good. Peat soils or waterlogged deposits are particularly good for this. Some sites are sampled specifically for palaeoecological evidence through core samples taken with a hand auger or similar.

MUSEUMS

There are a huge number of museums with archaeological collections across the world. From huge collections such as those in the British Museum, to local museums with little more than a room containing collections of interesting artefacts, there's a museum for every scenario containing all manner of lost artefacts.

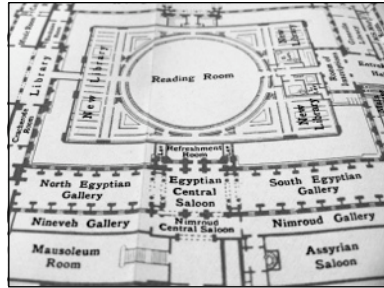
This section describes just some of the major museums in Europe, North Africa, and North America.

A lot of these museums have web sites which contain a wealth of information about their collections. If you want to use one of these museums have a look at the web link that follows most of the museums. (Note: links valid at time of publication.)

British Museum, London, United Kingdom

The British Museum opened in 1753, although it didn't open to the general public until 1759. The collections of Sir Hans Sloane were bequeathed on his death to George II for the nation. As a result George II had an act of parliament passed (the Foundation Act) which allowed the British Museum to become established. As part of the act other collections were added to the museum which included both books and antiquities. The museum was first housed in Montagu House in Great Russell Street, Bloomsbury.

The archaeological antiquities which the museum is now famous for didn't really appear until the 1780s when a number of artefacts were sold to the museum, including 'the foot of an Apollo in marble'. After the French defeat in Egypt in 1801 more Egyptian artefacts were presented to the museum, followed in 1802 by the Rosetta Stone and the Elgin Marbles in 1816.



In the 1840s the Museum became involved in archaeological excavations and sponsored excavations in Xanthos, Turkey, Nineveh, the Mausoleum of Halikamassos and the Temple of Artemis – two of the Seven Wonders of the Ancient World. From the 1850s the museum began to collect artefacts related to the British and European prehistoric and medieval periods. In the 1880s excavations in Egypt and Cyprus were commissioned by the Museum. The collections in the Museum have continued to expand and now contain over 13 million artefacts.

In the 1820s a new building was constructed for the Museum, on the same site, although it wasn't completed until the 1850s. The building was further expanded in the early 1900s when the museum bought the surrounding houses and a new wing was added. This is the building that houses the museum today. The Museum also housed the British Library until it moved to its current site in St. Pancras in 1998. The area which had formerly held the library was turned into the Great Court which opened in 2000.

www.britishmuseum.org

Egyptian Museum, Cairo, Egypt

More properly the Museum of Egyptian Antiquities, it was first established in 1835 and moved to larger premises in 1858 in a different part of Cairo. This was on the banks of the Nile and unfortunately it was flooded in 1878. The artefacts were moved to Giza until 1902, when finally, the current museum was built in Tahrir Square where the artefacts remain today.



The museum contains over 120,000 artefacts all collected from the numerous excavations that have taken place in Egypt. During the 18th, 19th and early 20th centuries artefacts were removed from Egypt and only some artefacts were kept by the museum. The situation changed as time progressed and by the time Tutankhamun's tomb was found in 1922 all the artefacts were kept in

Egypt and Lord Carnarvon was not allowed to remove any artefacts for his personal collection.

As well as the splendour of Tutankhamun's grave goods the museum also contains a mummy room, which contains a number of Egyptian mummies, a collection of papyri, coins, ornamental statues and a wealth of other grave goods.

Entering the museum today feels like stepping back in time. The artefacts are housed in wooden cases with labels that look like they were typed in the 1920s and haven't been updated since. The museum is chaotic and crowded with visitors. Guides are a must as finding anything is an adventure in itself.

www.globalegyptianmuseum.org

The Ashmolean Museum of Art and Archaeology, Oxford, United Kingdom

The Ashmolean was the first university museum, opening in 1683 following the bequest of a cabinet of curiosities upon the death of Elias Ashmole (for whom the museum is named) in 1677. Although the current building was constructed in 1845, it wasn't used as a museum building until 1894.

The archaeological collections began in 1829 when a collection of Anglo-Saxon antiquities from Kent were donated to the museum. Artefacts from excavations in the local area were added along with collections from Rome and Egypt. Arthur Evans was appointed Keeper of the museum in 1884. He expanded the museum's collections and had the collections moved, from 1894

onwards, to its current building. The archaeology collection includes Evans' artefacts from his Knossos excavations in the early 1900s.

www.ashmolean.org

Pergamon Museum, Berlin, Germany



Located on the wonderfully named Museum Island in Berlin, the museum was built between 1910 and 1930 and finally opened that same year. It is named after the Pergamon Altar which is reconstructed here (see below). It was built to house the amount of archaeological artefacts uncovered from German-funded excavations. Although damaged during air raids in World War II many of the items had been stored elsewhere. Following the war many items were taken to Russia for safe-keeping from the after effects of the war and still remain there today. The museum reopened in 1959 and was at that time in East Germany.

The museum contains life-sized reconstructions of monuments such as the Pergamon Altar from the city of Pergamon in Asia Minor and the Ishtar Gate from Babylon. Collections of items from Assyria, Babylon and Sumeria form the bulk of the collections. The museum is divided into three – the Collection of Classical Antiquities, the Museum of the Ancient Near East and the Museum of Islamic Art.

www.smb.museum/smb/standorte/index.php?lang=en

Field Museum of Natural History, Chicago, United States

The Field Museum of Natural History opened in 1893 as the Columbian Museum of Chicago. The name was changed in 1908 in honour of Marshall Field, a major benefactor to the museum. It moved to Museum Campus, its current location, in 1921.

The museum mainly holds a natural history collection, including a Tyrannosaurus Rex skeleton named Sue. However, it also has a number of archaeological collections including an Egyptian collection which includes 23 mummies and an exhibition on the ancient Americas.

www.fieldmuseum.org

Metropolitan Museum of Art, New York, United States

More often referred to as “The Met”. The museum was established following a New York State Act in 1870 and opened in 1872, originally on Fifth Avenue. The aim was to bring art to the masses. Although primarily an art museum, the original collections included a Roman sarcophagus. The museum moved twice, once to the Douglas Mansion



at 128 West 14th Street in 1873 and then again to its current location on the east side of Central Park. The façade and entrance were finished in 1926.

The archaeological collections include a collection of Egyptian art, Islamic art, Greek and Roman art and medieval artefacts. The museum also has a large library which includes early and rare books, including a copy of *Le Description de l’Egypte* dating to 1809 and commissioned by Napoleon. The Egyptian collection includes the Temple of Dendur, given to the museum in 1978 by Egypt. The temple dates to around 15 BC. It was moved to avoid its destruction by the Aswan Dam.

www.metmuseum.org

The State Hermitage, St. Petersburg, Russia

The State Hermitage was founded by Catherine the Great in 1764, mainly to contain her art collection. It was housed initially in an extension to the Winter Palace and was expanded several times by Catherine. It remained a private collection until 1852. The first archaeological artefacts were a set of Roman marbles acquired by Catherine from London in 1787. During the first half of

the 19th century the museum continued to acquire art work but also added artefacts excavated from sites in Russia. Nicholas I commissioned a new building, constructed between 1842 and 1851, to act as a museum for the public, which opened in 1852.

The public museum included an Egyptian collection and additional antiquity collections were added in the 1860s, including marble statues and vases. Following the October Revolution in 1917 the museum became a state museum and was merged with the Winter Palace. Other archaeological collections include prehistoric artefacts excavated in Russia from the Palaeolithic to the Iron Age.

www.hermitagemuseum.org/html/En/index.html

National Museum of Iraq, Baghdad, Iraq

Originally known as the Baghdad Archaeological Museum. It was established by Gertrude Bell and opened shortly before her death in 1926. Due to her political career Bell became involved in the creation of Iraq following World War I. This, coupled with her interest in archaeology, led her to propose a museum to allow artefacts excavated to remain in the country they were found. The collections included artefacts from the Mesopotamian civilisations and from the Babylonian Empire.

The museum is sadly most notable in recent years due to looting during the start of the Iraq war. The numbers of artefacts lost seems to be in some doubt but certainly a large quantity remain unaccounted for, although many have been recovered.

www.theiraqmuseum.com

National Archaeological Museum, Venice, Italy

The museum was established in 1596 in the San Marco library. Its first collections were donated by members of the Grimani family who left their collections of antiquities to the Serenissima Republic of Venice. Further donations followed and in 1812 the museum was moved to the Doge's Palace. After the First World War, King Vittorio Emanuele III provided funding to allow it to be moved to its current location in the Royal Palace in St. Marco's Square.

The collections include artefacts of Egyptian, Babylonian and Assyrian origin. Additional collections of ceramics, prehistoric bronzes and jewellery were added in the 1950s and 1960s.

www.polomuseale.venezia.beniculturali.it

Cabinet of Curiosities



Cabinets of curiosities were collections of assorted artefacts. They included items of archaeological interest, artefacts from the natural world, geological samples, religious relics and everything in between. The curiosities were collected by the rich, as well as scholars and merchants from the 16th century onwards. Famous owners of cabinets of curiosities were John Dee (although there are no records of what

happened to it after he died), and Peter the Great. Other monarchs and notable scholars also had collections. Dee's collection was housed in a cabinet but not all collections were – some often took up a whole room. They were the founding point of many museums including the British and Ashmolean Museums. They were also known as 'Wonder Rooms' and 'Cabinets of Wonder'.

RUNNING AN ARCHAEOLOGICAL EXCAVATION

Archaeological excavations need to be organised. Though technically possible, you cannot just pick up a shovel and start excavating. The location of the excavation needs to be decided to ensure that the correct area is excavated to maximise information gained, which means research is needed to locate the excavated area correctly. Excavations are also expensive. Funding is needed for this,



and to pay for the staff needed to undertake the excavations which are often labour intensive. Finally, the information recovered – the artefacts, the plans, the notes – need to be analysed and written up. This section covers details of how a site might be funded, details on who might work there and what happens afterwards.

Site Funding

In the Victorian era funding came primarily from a wealthy patron, unless the archaeologist was lucky enough to be of independent means, by birth, industry or marriage. A patron could be either an individual or an institution, such as a museum or university. Excavations were undertaken primarily for research or to “see what is there” and, in some instances, to find treasures. This latter was particularly the case in areas such as Egypt where there was always the promise of ancient gold. Permission for excavation was usually from the landowner who would likely take an interest in what was discovered, especially if artefacts were of value. In some regions, such as Egypt, an excavation licence was required. This was essentially a grant by the government to allow the holder to excavate a site or area. Unfortunately this wasn't always on the basis of the merit of the archaeologist but often on how much the excavator (or their patron) was willing to donate back to the Cairo Museum.

In the 1920s the situation was broadly similar. Funding was less by wealthy individuals and more by institutions. There were some exceptions, such as Lord Carnarvon's patronage of Howard Carter that led to the discovery of Tutankhamun's tomb. Few universities had a course which taught archaeology and it was studied in combination with other subjects such as classics. As a result, university funded excavations tended to focus on Roman, Egyptian and Greek sites, as well as the Near East.



In the late 20th and 21st century most excavations are funded by developers, at least in the UK, Europe and North America. In Britain this is tied-up with the planning system. However, research excavations are still undertaken but again mostly by universities and museums although some are undertaken by local amateur groups. Landowner permission is still

needed and in some areas consents and licences may be required, such as work within sites designated as Scheduled Monuments.

Site Workers

In the late 19th century there would likely be only one or two professional archaeologists working at a site, perhaps with junior staff who were learning to excavate. The bulk of the work would be undertaken by labourers. These would usually be local men paid to do the work although in some cases prisoners were also used as a source of labour.



The labourers may have had a foreman who was in charge of them and orders would be passed from the archaeologist to the foreman and then down to the labourers. Some archaeologists may not even be present on site all the time. Some foremen and labourers became quite skilled at archaeological excavation, especially if they worked on an archaeological site for a number of years. In Egypt the local labourers probably knew more about how to dig than some of the archaeologists. Specialists might also be employed but these were likely to comprise artists to sketch the site, rather than technical specialists.

In the 1920s the situation was largely unchanged although this period saw an increasing number of specialists employed. These might include surveyors to accurately record the site, a draughtsman to make technical drawings and specialists in artefacts who could examine, date and even repair artefacts. There may be students learning about archaeology and, particularly in digs abroad, family members of the excavation team. Agatha Christie often spent time at her husband Max Mallowan's excavations and worked on pottery when not writing the next Poirot novel (see *Murder in Mesopotamia* for how the two mixed).

On modern sites the archaeological staff will mostly comprise of professional archaeologists. Most are university graduates and will have been through training research excavations as part of their degrees. On development sites construction staff will also be found. The archaeologists will comprise archaeological excavators and, depending upon the size of the site, there will be one or more supervisors in charge of areas. Finally, there will be an overall

project officer in charge of the site. Archaeological visitors to the site could include the developer's archaeological consultant and consultees such as the planning authority's archaeologist or even staff from English Heritage or Historic Scotland (national heritage bodies).

Post-Excavation

After the excavations have been completed on site a report, book or journal article might have been produced in the Victorian era. Recording on site was relatively minimal although people like Pitt Rivers paved the way with recording. Artefacts were usually sent to the museum or university funding the excavation for display there, although some artefacts were kept by the archaeologist. On occasion archaeological collections might not make it to a museum until the death of the archaeologist or the patron of an excavation, who would also have had their pick of artefacts. Most of the artefacts are not on display in museums and are instead kept in storage.

The situation remained much the same in the 1920s although more recording was undertaken on site so reports might be longer than those seen previously. There was also more analysis of artefacts undertaken as part of this process and artefacts were more readily given to museums, rather than being kept by the excavator.

It should be noted that for both the Victorian period and the 1920s there was no requirement for archaeological work to be written up and published. Some excavations were not written up until many years later and on occasion not until after the archaeologist who undertook the initial excavations had died! In both periods the site itself would either be left open, perhaps for the public to view (if of enough interest) or covered over and buried.

Today, the site is more often than not developed and built over, as this is the purpose for much of the excavations which are funded by the developers. Research excavations are usually backfilled, but perhaps with a protective layer over the excavated surface so that it can be revisited in future years.

Modern day development-led archaeology usually has a requirement for a report to be produced to detail the results of the excavations. If the site is particularly large or complex this can also result in full publication. The very detailed records kept on site are studied to provide descriptions of the archaeological features, artefacts are examined, dated and conserved and the

drawings produced on site are digitised. These are used to come up with an interpretation of the site – what is was used for, what activities were undertaken, who might have lived there etc.

Research excavations are treated in much the same way but the post-excavation work might take a longer time to complete, due to other commitments of the research team.

Artefacts and the archive from the excavations should be deposited with a suitable museum. Sadly a lot of museums are over-stretched and running short on storage so sometimes only the more important artefacts from a site are deposited and the rest remain with the body that undertook the excavations.

FAKES & FORGERIES

Fakes and forgeries have been around for as long as there has been interest in the past. Whether to make ill-gotten gains, shore up a shoddy theory or simply to attract attention, the art of archaeological deception remains alive and well.

A sample of some well-known faked sites and artefacts are presented here to provide a flavour, along with a few suggestions for using fakes and forgeries in your games.

Piltdown Man

The discovery of Piltdown Man caused a sensation in 1912. The skull and jawbone of what was supposed to be an early ancestor of *Homo sapiens* was sent to the British Museum by a lawyer named Charles Dawson in 1912. Dawson claimed that the remains had been found by quarry men at Piltdown Quarry on the south coast. The remains fulfilled the expected form of the ‘missing link’ in the evolution of man, which was being searched for all over the world.



Dawson and Sir Arthur Smith Woodward, Keeper of Geology at the British Museum, conducted further excavations and uncovered further bone

fragments as well as remains of fossil animals. However, the growing evidence of human evolution made Piltdown Man appear to be an anomaly.

In the 1920s Franz Weidenreich, a German physical anthropologist, examined the remains and concluded that they looked like a modern skull with an orangutan's jaw bone. However, it was not until 1953 that the remains were definitively proved to be a fake when fluorine tests showed the bones were much younger than expected. Some of the teeth had been filed down to make the orangutan's teeth look more human and the bones had been stained to make them appear older. It seems likely that Dawson was the perpetrator of the forgery and after his death several of his other discoveries were also found to be fake, although numerous people were implicated, including Sir Arthur Conan Doyle.

Glozel



The archaeological site at Glozel in central France was discovered by Emile Fradin whilst ploughing a field in 1924. Initial interpretations were that it was a Gallo-Roman site, dating to 100–400 AD. Much excavation took place over the next three years and a local amateur archaeologist, Antonin Morlet, offered 200 francs to be allowed to finish excavating the

site. Some rather unexpected artefacts were recovered, which included tools of earlier prehistoric date, clay tablets with symbols similar to Minoan and Phoenician scripts, and an engraving of a reindeer with a written inscription. As reindeer had become extinct in the area c.10,000 years BC, and at least 7,000 years before the introduction of writing, this was somewhat suspicious.

Morlet invited archaeologists to visit the site in 1926. The authenticity of the site was confirmed by two well-known archaeologists, Salomon Reinach and Abbé Breuil, although Breuil later retracted his authorisation and stated that “everything is false except the stoneware pottery.” In 1927 a special commission was set up to investigate the site. Excavations confirmed that the site was a fake and Fradin was accused of forgery. Concerned by the controversy a second committee investigated the site and authenticated it. Although Fradin was convicted of fraud this was overturned on appeal.

This was not the end of the story. Later scientific dating confirmed that some of the artefacts were genuine but that some were probably forgeries. The clay tablets were dated to the Iron Age and the writing on them was probably some form of Gaulish dialect, while some of the human bones were probably medieval in date. There was even speculation that a cult, surviving from pre-Roman times, had used the site as its base. Glozel remains a controversial site to this day.

The Cardiff Giant

In 1869 workers were hired to dig a well on the farm of William Newell in Cardiff, New York. Whilst digging the men uncovered a 10 foot high petrified man. It was believed by these workmen to be the remains of an old Indian. Newell charged people to come and view the giant but it was quickly uncovered as a hoax. It was revealed that Newell's cousin, George Hull, decided to construct the giant following an argument with a minister over a phrase in *Genesis* 6:4, which stated that giants were once on the earth (the interpretation depends upon the version of the Bible used – not all refer to 'giants'). The minister believed that the Bible should be taken literally so Hull, an atheist, decided to build a giant to make fun of this interpretation.



The giant was carved from gypsum and stained and beaten with steel knitting needles to make it look older. Unfortunately the chisel marks could still be seen in places. Despite this, members of the public still came to see, and paid for the privilege. The giant is still on display today in Cooperstown, New York.

Using Fakes & Forgeries in Roleplaying Games

There are a number of ways in which fakes and forgeries can be used in roleplaying games, either in one-off sessions or as part of longer-running campaigns. Forged artefacts and sites can be used in several ways. Here are a few examples:

- A character has a keen interest in a particular sort of Egyptian jar. He hears a new one has been found and is for sale so, with the rest of the characters, visits the manor house of the current owner. Things do not go well...
- A leader of an occult group wants to prove to his followers that his claims are real. He commissions the creation of an artefact to prove what he has been saying.
- A scientist claims to have found a new species of hominid that connects humans with lizards and the dinosaurs that came before. The characters can't believe this could be a genuine claim and investigate. After all, there's no such thing as a lizard man.
- In need of funds, a local cult create their own archaeological forgeries to sell. The characters hear about this recent increase in fake items which have been sold to a museum curator, a friend of one of the characters. The curator, at risk of embarrassment (to say nothing of the loss of funds) asks his friend to investigate.
- An archaeological site has recently been found that apparently shows the Romans were on the south coast of England much earlier than supposed. This is part of a cunning plan to lure the characters to visit the site. These people have been meddling in the affairs of the perpetrator and now they are just where he wants them.

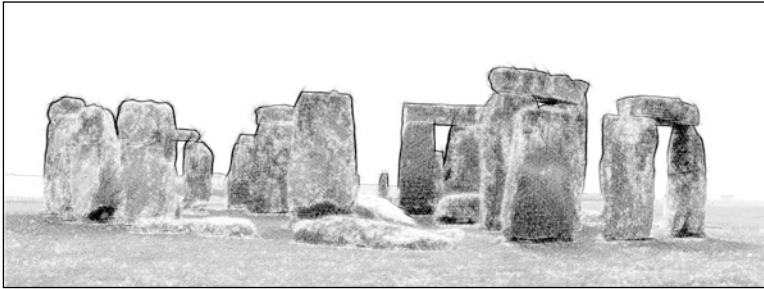
Of course, artefacts that appear to be faked, because they couldn't possibly be real, might turn out not to be fake at all...

A GEOGRAPHY OF ARCHAEOLOGY

This section contains details of notable archaeological sites. Again, this is not an exhaustive list. The discovery and interpretation of the selected sites is discussed and some plot hooks are provided. The following section is arranged by geographical area and is limited to Western Europe, Africa, The Middle East, North America and South America.

WESTERN EUROPE

Stonehenge, Wiltshire, United Kingdom



Stonehenge is one of those sites that has always been known about and as a result has attracted tourist attention. For example it was once possible to hire a hammer from the local blacksmith in Amesbury so that souvenir samples could be chipped off. The site was first excavated in the mid-17th century by John Aubrey, an English antiquary, who discovered a number of holes that once held wooden posts. It was later excavated by William Stukeley in the early 18th century. Stukeley also examined the wider landscape and found the cursus and Avenue, as well as excavating a number of associated barrows. The remains of the henge were, however, unstable and one of the trilithons (the arrangement of two upright stones with a third stone set across the top of them) fell in 1797.

Further investigations at the stones continued throughout the 19th century and included surveys by Flinders Petrie. In 1882 Stonehenge became the first Scheduled Ancient Monument due to its national importance. This gave the site legal protection by law. As the stones became unstable the landowner propped them up. Following the collapse of another stone in 1900 the owner fenced them off and began to charge an admission fee. Reconstruction of the stones then began but it was not until the 1920s that the stones were fully adjusted to how they appear today. In 1918 the stones were gifted to the nation.

The pagan connection with the stones was first suggested by Stukeley who believed it had been constructed by druids. The first recorded visit by modern druids, the Grand Lodge of the Ancient Order of Druids, was in 1905. In the

1920s some factions of druids (the Church of the Universal Bond) wanted to hold ceremonies and bury the ashes of their dead at the stones.

During both World Wars Salisbury Plain was the scene of intense military activity which had its effect on Stonehenge, including damage caused by shells fired nearby during World War I. While the stones were protected in World War II the surrounding landscape was damaged by tanks.

Today Stonehenge is owned and managed by English Heritage, the heritage body for England. Debate on how to treat the approach to the stones, and the surrounding landscape, is on-going.

Plot Hook...

Several theories have been put forward regarding Stonehenge's use as an observatory; one of them being those of New Age thinker James Mitchell, whose book *The Salisbury Observances* hypothesises on the astronomical skills of 'the ancients' and claims to have recorded their rituals. Although lacking evidence, Mitchell claims that those who built the site could predict future events using certain 'grains' within the monument. Mitchell has gathered his disciples and is lobbying to hold a ceremony at Stonehenge to prove his theories: this is contentious because the 'grain' is stored in the core of the stones. Archaeologists have denied claims in Mitchell's book, including the 'grain', and refuse him permission to deface the site. Unknown to archaeologists there is a type of metallic grain present, but its otherworldly nature makes it difficult to detect. Its use aided the monument builders to communicate with star-bound entities, but they eventually abandoned it and the rituals regarding Stonehenge's use have been lost. Mitchell has acquired this information through arcane sources; from these same sources he acquired a badly cobbled together version of a spell to contact star creatures and he is happy to masquerade it as an ancient Druidic ritual. Mitchell's summoning will be amplified through the use of the stones and he plans to make contact with the star creatures for whatever reason, offering his disciples as sacrifices.

Although not strictly plot hooks the many and varied theories about how the stones were constructed may be of interest to Game Masters. These include:

- The stones were raised by Merlin in Ireland and brought to Salisbury Plain under Uther Pendragon's direction.
- The stones were brought to the site by the Devil.

- The stones were built as an astronomical calendar – due, in part, to the sun rising through the stones at the solstices.
- The henge has been built on ley lines.
- Aliens bought the stones to Salisbury for reasons unknown or possibly used it as a landing site.

Lascaux, Montignac, Dordogne, France

Lascaux was discovered in 1940 by a group of teenage boys who explored a hole created by a fallen tree. They told their teacher who called in the experts. The cave system contains a large number of cave paintings. The first archaeologist on the scene was Abbè Breuil in 1940 but it was the work of Abbè Glory between 1952



and 1963 that meant the cave was properly recorded. It opened to the public in 1948 but closed in 1963 to allow the paintings to be conserved after being damaged by the carbon dioxide produced by the many visitors. A replica cave was opened in 1983 to allow visitors to see copies of the paintings. Only scientists and archaeologists are allowed to visit the original caves. Since the late 1990s the caves have been invaded by mould and access to the original caves is now very limited.

The more famous images are of four black bulls that appear as if they are in motion. There are nearly 2,000 images in the caves, the majority of which are of animals. The paintings date to the Upper Palaeolithic, some 15,000 years BC.

There are recent theories that the caves contain star charts showing constellations of the time. Alternative theories include the idea that the images are the result of a trance like state. Exactly why cave art was produced is not, and probably never will be, fully known.

Plot Hook...

The examination of the new caves began typically enough: blank rock soon gave way to primitive drawings of horses, bulls and so on. But deeper into the cave things began to change. The primitive designs shortly gave over to

depictions of irrigation, early building work and conquering armies, and then tall buildings, ships and aeroplanes. At the very farthest reaches of the caves the drawings become more frantic and less intelligible. Multitudes of people are shown leaving their cities to line up on the shore, and then the artist seems to have abandoned any pretence of sense as the end of the cavern evolves into nightmare eruptions of wild scrawls and angles. No remains of the original artists are apparent, although the rear of the cave is highly radioactive...

Pompeii, Naples, Italy



The Roman cities of Herculaneum and Pompeii were destroyed when the nearby volcano of Vesuvius erupted in 79 AD. Their destruction was recorded by writers at the time, such as Pliny. Both cities were completely covered by ash and pumice and lost for some 1,500 years. The city was first rediscovered in 1594 when a Neapolitan architect was

commissioned to excavate a water supply tunnel from the nearby River Sarno to an estate on Vesuvius. The workmen excavating the tunnel found some ruins of an ancient city, but rather than excavating these further, the water tunnel was moved in an early example of preservation *in situ*, a technique now recommended.

A well excavated in 1709 discovered a marble slab rather than the expected water. News of the discovery of this slab, later found to be a seat in a Roman theatre, reached Maurice de Lorraine, an Austrian cavalry officer (the Austrians occupied Italy at this time). He built a villa nearby and had further excavations undertaken. De Lorraine then decorated his new villa with the statuary his excavations uncovered. In 1735 Charles of Bourbon, who made himself king of the area (Italy was not unified at this time and existed as a series of independent kingdoms and states), ordered the work to be expanded to fit out a royal collection. He employed Marcello Venuti as royal antiquary. To this effect, Venuti was the first to realise that the remains weren't just that of a temple, but of an entire city. However, Charles merely wanted art and artefacts, not caring about the archaeology or the history of where the items came from.

Charles commissioned further excavations at the hill where the first remains were discovered, known as La Civitá, (“town”). The difference at this site was a man named Karl Weber who recorded every room excavated. In this way Weber undertook the first archaeological excavation at Pompeii and it was at this time that the remains first became a tourist attraction. Pompeii was a popular destination for young gentlemen on the Grand Tour. So popular was the site that in the early 1800s the King of Italy ordered artefacts to be recovered for the Fourth Duke of Northumberland upon his visit.

The famous technique of using plaster to fill in the voids left by the bodies of the people who died in the cities was pioneered by Giuseppe Fiorelli in 1860. Fiorelli also began the process of excavating the remains of Roman houses layer by layer, block by block.

Pompeii has remained as a tourist attraction and excavations are still ongoing.

Plot Hook...

The broken remains of a tablet have been recently unearthed in the ruins of Pompeii, found not far from the preserved cast of a man believed to be a member of the cult of Ceres. The tablet is a message to a senior member of the cult warning to “take his suspicions to....and have them put a stop to...” The tablet indicates that “them” are a Vulcan cult and the message seems to be intended for a public official in Pompeii’s government.

Archaeologists are racing to the site of the Vulcan cult as given in the tablet, hoping to uncover a previously unknown temple. If the tablet were more complete, then they might not be in such a hurry. The messenger from the cult of Ceres intentions were to gather up a force to suppress and imprison the Vulcan cult. After suspicions were raised about bodies uncovered on the edge of town, an infiltrator discovered the cult of Vulcan to be a front for worshippers of the vice god Cthaegha. The Cthaegha cult learned about their discovery and in desperation summoned their lord, causing vast amounts of devastation and triggering the fatal eruption. Now, with the prospect of uncovering a wealth of forgotten secrets, a modern-day Cthaegha cult has entered the site under the guise of tourists planning to be there when the archaeologists find the temple. Likewise, those who oppose Cthaegha and would rather the methods of the cult remain forgotten, have also arrived to prevent the temple’s discovery or destroy their opposition, as well as anybody else who gets in their way...

Sutton Hoo, Suffolk, United Kingdom



In 1938, Edith Pretty, a wealthy widow, decided to investigate a number of mounds on her land. She sought the advice of Ipswich Museum, who put her in touch with Basil Brown, an amateur archaeologist. The first mound was disappointing when an initial trench hit natural stone. After that, another mound was tried by using the

antiquarian technique of cutting a trench directly down the middle of the barrow.

Unfortunately, the site seemed to have been robbed at some time in the past. All that survived was the remains of a wooden tray, upon which lay the remnants of cremated bone of a human and a horse. Other artefacts lay around this, including pottery and an iron axe head. During the 1938 season further mounds were also found to have been robbed, but Brown was able to determine that the cemetery was actually Anglo-Saxon in date, and not Bronze Age as previously thought.

On the instruction of Mrs Pretty, in May 1939, Brown returned to the first mound he had excavated. This mound soon proved to contain iron rivets, of the type that held ship's planks together, found in their original location. While the wood had decayed away in the acidic sandy soil, the rivets still marked out the shape of a ship.

The British Museum arrived soon after to find that Brown had carefully excavated the extent of the ship, leaving the burial chamber untouched. Charles Philips from Cambridge University came to excavate the site, with Brown as his assistant.

It was worth the effort. Philips uncovered gold artefacts; clasps and buckles, inlaid with garnets and decorated with animals, coins, shields & silver bowls. The treasures kept coming. Finally, the famous Sutton Hoo helmet was uncovered, although no body was found. It was evident that any human remains had decayed away, just as the planks from the ship had.

The artefacts were dated by the British Museum to the early 7th century AD. The sheer wealth of the artefacts suggested that the burial was that of someone of high status, possibly an Anglo-Saxon king. Later excavations also took place again by the British Museum in 1965–1971 and in 1983–1992.

Plot Hook...

What could he do now, after what *it* had made him do to Wheatcroft? He'd have to tell someone. The brooch certainly wasn't Saxon, and that's why they'd decided to look at it secretly, away from the rest of the hoard. It had only been a few hours after that the photographs they'd taken had set the darkroom alight, and then his secretary had passed him the note about Dr Churchman's car crash. It was too much; he'd have to return the brooch to the dig tonight, break-in if he had to. In a few hours anyway. He was so close to identifying where he'd seen the symbols before in his books. Perhaps the dreams could help, but they didn't come on their own did they? Mrs Dale was coming down the hall with his tea. His hand drifted over the books and papers to the letter opener. The symbols weren't Hawaiian, or Maori, he had to think: which other cultures used an octopus in their mythology..?

Troy, Çanakkale, Turkey

Troy was excavated in the latter part of the 19th century by Heinrich Schliemann, a retired German business man, and Frank Calvert, an English archaeologist who lived close to the site. Calvert had been excavating there for 20 years already. Schliemann wanted to prove that Troy and other places from Homer's works were real and brought the money required to excavate the site thoroughly.

Workmen were employed to start excavations in 1870 at the suspected location of Troy. A trench was dug down through the centre of the mound so that they could rapidly reach the supposed location. Upon finding a layer of burnt rubble Schliemann thought he had found the city he was looking for. Wanting to let people know what he had found he sent regular updates to several newspapers.

In May 1873 Schliemann was actually getting his hands dirty and excavating a gateway in what he believed to be King Priam's Palace. He discovered items of gold and quickly cleared the site of workmen. He and his wife, Sophia, then



collected a treasure trove stashed between two walls. The Schliemanns smuggled the entire hoard out of the country, most notably under Sophia's dress. Once Schliemann announced his discovery, the Turkish authorities were not happy, especially as they owned half of the site. Legal proceedings were started and Schliemann had to pay fines and extra fees to become the owner of the treasure. Schliemann went as far as to claim that the jewellery he found belonged to Helen of Troy, herself.

It was later found that the city Schliemann claimed to be Troy was actually much older. In fact, as early as 1872, Calvert suggested that Schliemann's excavation techniques meant that he had dug straight through the city he was looking for, destroying much evidence in the process. The treasure, too, was not without speculation. One of the workmen later claimed to have found some of it in a different part of the city and Schliemann's wife wasn't even on site on the day the discovery was supposed to have taken place.

Plot Hook...

Journal Entry, July 30th, 1890: Once again I find Schliemann and Dörpfeld have been arguing like children over the new discovery. There is no explanation for this sudden bad feeling besides the new discovery of the "sacrificial chamber" (a title I feel is best discouraged) by Professor Kepich and the Turks. The old Swabian reckons it to be older than the whole site, or what's left of it after the disastrous early excavations of the German idiot. There appear to be fragments of idols and manuscripts (peculiar ones) in the newly found chamber, and I must admit the style is different, as is the placement in the city. It is as though the city was built with the chamber in mind, around it almost.

The American Mr Pyle has returned this morning. His repeated request to privately investigate the site seems to be trying the nerves of our German friends. An amusing aside: Emir, one of the Turks, seems quite rattled by Pyle due to his resemblance to one of our rubbings of a mural from the chamber. This resemblance to the priest the mural depicts and our mysterious guest *is* quite remarkable, however...

Knossos, Crete, Greece

The site of Knossos was partially excavated by a local Cretan antiquarian and merchant. The site was identified by Schliemann as a possible precursor to the Mycenaean civilisation he had excavated after Troy, but he died before he had chance to excavate. Arthur Evans, curator at the Ashmolean Museum in Oxford, became interested in the site



due to his interest in seal stones inscribed with an untranslated language that he thought might belong to the earliest Greek civilisation. He began excavating the site in 1899.

Evans uncovered a two acre site of a palace complex that had belonged to a forgotten civilisation. He named the site after Minos, recorded in Greek myth as having a labyrinth containing the minotaur. The palace proved to be richly decorated, with a couple of themes of particular interest. The first, a double-headed axe symbol is of note because a similar inscription was found on one of the stones at Stonehenge. This led to the interpretation that Stonehenge had been built by travellers from Bronze Age Crete. The second theme was that of bulls. Evans had remnants of scenes pieced together, although the accuracy of the interpretations is still occasionally in doubt. It is possible that scenes showing men and women leaping onto the back of bulls led to the myth of the minotaur.

Parts of the palace walls were reconstructed out of concrete so that visitors could see better what the site had looked like. This has since proved to be the cause of issues with conservation of the site as the concrete decays. Some of the interpretations may also be dubious. However, Evans and his assistant Duncan Mackenzie, kept good records. He later bought the site to secure its preservation, eventually donating it to the British School at Athens in 1924.

Plot Hook...

Somewhere beneath the palace of Minos, the labyrinth waits.
Somewhere in the labyrinth, the bull waits.
Inside the bull, the god waits.

Ever since the scholar walked out of the East and convinced the priest-kings to build the labyrinth, it has waited patiently for its supplicants. The ruler of Minos was told that to be lost in the labyrinth would bring enlightenment from the god of the labyrinth; all it would take to summon him, as had been done in the misty islands to the West, was to build the labyrinth. Men and women were sent into the labyrinth to commune with the god and seek enlightenment. When they returned they said the god was white, large and stocky, like a bull. It told them its name: Hartor.

They kept the information of the god's bargain secret from their fellow citizens until it was too late and they succumbed and died horribly. The labyrinth was duly bricked up and its location within the palace kept secret. No more bargains would be struck with it and knowledge about what had occurred passed into the legend of the Minotaur. The god knows its time for rediscovery is soon. Even now it can hear the soft pulse of humans in the lowest chambers of the palace, about to clean away the dust covering the entrance to the labyrinth. Once again it shall have supplicants...

SOUTH AMERICA

Easter Island, Polynesia, Pacific Sea



Easter Island was first discovered by Europeans in 1722. A Dutch navigator, Jakob Roggeveen, was looking for '*terra australis*', a continent believed to exist on the other side of the world to Europe. Roggeveen spotted a distant island and set sail for it. As it was discovered on Easter Sunday, it became known as Easter Island.

When passage to the island was finally gained, Roggeveen and his fleet were surprised to see not only indigenous people but also numerous giant stone effigies. These statues mainly comprised the heads and torsos of large figures. By the time of Roggeveen's arrival nearly all the *moai*, as they are now better

known, had been toppled, likely due to conflict between different tribes on the island.

The local tribes had adapted from this turn of events into a 'birdman' cult. Each tribe would send a boy to climb down the cliff, swim half a mile to a rocky islet and be the first to return with an egg from the nesting migratory terns. The first back won the right for his tribe to manage distribution of food on the island.

The purpose of these statues on an isolated and remote island was a puzzle until the late 19th century when archaeologists finally came to Easter Island to investigate the *moai*. One of those was Katherine Routledge (1866-1935) who first came to the island in 1914. She interviewed the islanders and surveyed the land. She determined the routes along which the *moai* were transported and also came up with a theory that they were positioned to form social boundaries between different clans. While this theory was later questioned, recent research has indicated the Routledge was correct.

In 1925 Routledge suffered from schizophrenia and died, institutionalised, in 1935.

Plot Hook...

It is commonly believed that the *moai* of Easter Island are unique. This is not technically accurate. Beyond the sea there is another island which, with the proper rituals, chemicals and training, can be reached by a hardy traveller prepared to cross the ocean of sleep. On this island stand the same *moai*, but with drastically altered features. These are the features of the Great Ones, lesser gods spoken of in the Dreamlands and carved in the straits of the Isle of Oriab.

The inhabitants of the island realised that they could make the trip to the Dreamlands under certain circumstances and created the *moai* in reflection of what they found there. Much of the lore of the Dreamlands can be found in the island's inhabitants (perhaps the local birdman cults are representative of the Nightgaunts who haunt the slopes of Mount Ngranek?), but if the peoples of the island can pass easily enough to the Dreamlands, it might not be long before something returns the same way...

Nazca Lines, Peru



The Nazca lines are found in the desert in south western Peru. Formed by the Nazca culture, who flourished between 300 BC and 800 AD, the Nazca irrigated the desert for farming. Although this in itself was a remarkable achievement it is not why the Nazca lines are famous.

A set of lines in the desert were discovered in 1926 by Alfred Kroeber, an American anthropologist, who saw that the desert was crossed with unexplained

lines. These were initially thought to be roads. During the 1930s Paul Kosok, an American archaeologist, examined the Nazca lines from the air and realised their extent. Kosok further found that pottery associated with the lines dated them to the Nazca culture and that the lines were simply made. The red desert surface was simply moved aside to reveal the whiter soil below.

After World War II, Kosok hired Maria Reiche, a German mathematician, to help him map the lines. In 1946 Reiche started by walking the lines, mapping them as she went. Whilst undertaking this immense task she realised that some of the shapes were actually those of animals – a spider, a monkey, a hummingbird and a lizard. Some of the shapes are less obvious.

The figures in the Nazca desert are massive, some as much as 270 metres in length. To properly map them Reiche asked for help from the Peruvian air force, who photographed the region from the air. It is clear that the shapes could not be seen in their entirety from the ground. Further evidence suggests that the lines were built between 100 & 500 AD. Remnants of wooden posts were found which may have been used to help in the marking of the figures.

The purpose of the Nazca lines remains unsolved. Some of the lines appear to be on astronomical alignments, something Kosok noted on the summer solstice in 1941.

Plot Hook...

The British archaeologists examining the Nazca lines have encountered a problem in the erratic behaviour of their expedition leader, Professor Foxe. Every night the professor disappears from the camp and returns the next morning covered in dust; the professor requests private use of the team's plane and spends hours circling the lines; he has even warned off another researcher at gunpoint from getting too close to certain lines. Foxe believes that sleeping in the desert brings visions of the creation of the lines and of things before, when the beings who once lived in the land encoded information about their great enemy so that it might later be discovered.

The Nazca lines were once an outpost of the Great Race, who in their last moments implanted information in the soil to make sure that if the Flying Polyps were active then the information would make itself known. A small number of the Flying Polyps were successfully contained before they overran the outpost, and can only be released once certain sections of the lines are erased. Unknowing neglect on the part of the archaeologists has caused this to happen, and it is the imminent arrival of the polyps that has caused Foxe to be afflicted with madness as the knowledge of the Great Race starts to seep into his mind...

Machu Picchu, Peru

The Incan city of Machu Picchu was discovered, as was often the case, by accident by an American archaeologist, Hiram Bingham. After attending a conference in Peru in 1911, Bingham, a lecturer in South American history, decided to visit an Incan site. Bingham hoped to find remains of one of two Inca cities mentioned in 17th century Spanish chronicles of the Conquistadors, the cities of Vilcabamba and Vitcos.



Whilst on the way to the ruined city Bingham asked a local farmer if there were any ruins in the area. The farmer mentioned that a couple of his friends had cleared some ancient terraces on the Old Mountain, or *Machu Picchu* in

the local language, so that they could farm them. This was not uncommon practice for local farmers.

Bingham travelled to the area to meet the men, who sent him with one of their children as a guide to their newly cleared terraces. The child showed Bingham not only the cleared terraces but also a number of ruins nearby, where he often played. This was the lost city of Machu Picchu. Although technically rediscovered by local farmers and their children, Bingham received the credit as he announced it to the world. After visiting the site he continued on to the other city but arranged for the site to be surveyed. He then came back the following year with an expedition funded by Yale University and the National Geographic Society. This uncovered the city that can be seen today and was published in the *National Geographic* in April, 1913.

Machu Picchu turned out not to be one of the lost cities Bingham was looking for but instead a royal Inca estate. Today it is a major tourist attraction and designated as a World Heritage Site.

Plot Hook...

Those examining the ruins of Machu Picchu have been experiencing a delay in their work due to a strange phenomenon. Every morning scores of dead animals are found clustered in an orderly circle around the cemetery in the northwest of the ruins, all of them in a posture of subjugation. So far llamas, birds and various insects have been found in such a state, but no people – yet. Nobody on the expedition team has been brave enough to stay the night at the cemetery and see where the animals come from and what they do around this particular site in the graveyard, said to be the burial place of a mystic in the court of the Incan royalty, and also lying directly in-line with the great Intihuatana ritual stone...

NORTH AMERICA

Mesa Verde, Colorado, United States

Mesa Verde includes a number of sites known as Cliff Palace, Square Tower House and Spruce Tree House. They were rediscovered in 1888 by a cowboy named Richard Wetherill and his brother-in-law Charlie Mason whilst looking for their cattle. The site they named Cliff Palace was discovered first, being a



cave filled with adobe buildings. This was followed by Spruce Tree House and Square Tower House. The floors of the buildings were covered with the remains of pottery and stone tools.

Wetherill explored the ruins, uncovering artefacts including shells, beads and even fabrics. He also found

the remains of the people who had lived here. The dry conditions meant the bodies had naturally mummified. Wetherill sold many of the artefacts he found, including some to the Colorado Historical Society.

In 1891 Baron Gustaf Noedenskiöld, a Swedish mineralogist, visited the site. He showed Wetherill methods to excavate and record the archaeology. Wetherill then excavated other sites in the area, funded by the Hyde brothers, at Grand Gulch and Chaco Canyon. He identified two cultures, the 'Basket Makers' and the later 'Cave-Dwellers'. The former were named after the baskets they used instead of pottery; the latter after the caves they lived in. The people that lived at Mesa Verde are sometimes referred to as the *Anasazi*, a Navajo word translating to 'the ancient ones' or 'enemy ancestors'. Wetherill believed that the people who had lived there had been wiped out in a catastrophic war, mainly because some of the bones had stone points embedded in them. Later reinterpretation suggests otherwise, and that incoming nomadic people and climate change were more likely causes.

Wetherill and the Hyde brothers were later accused of looting and destroying these sites, although they were eventually cleared of any transgression. Despite this they were denied permission to continue excavations. Wetherill was also accused of mistreating the Native Americans who worked for him and was shot in 1910 by one of his workers who was known to have owed him money.

Plot Hook...

After attacking one of the exhibits in the society's museum, the security guard was quietly taken home and later to an institution, raving and uncontrollable. The guard was found with an empty revolver a few feet from one of the mummified bodies uncovered at Mesa Verde. Strangely the glass case containing the mummy appeared to have been smashed outwards. Examining

the circumstances of the mummy it was discovered that it was found a little later than the rest of the bodies in an upright position near a collapsed tunnel entrance. Scientists examining the corpse were astounded to discover bullets lodged in delicate machinery of unknown origin that seemed to have replaced sections of the corpse's musculature. The managers of the institute are currently writing to other institutes holding Mesa Verde mummies to see if the same has occurred elsewhere. Inscriptions on the machinery have been linked by some to the fabled underground civilisation of K'n-yan, but this has yet to be proven...

Head-Smashed-In, Alberta, Canada

Head-Smashed-In is a cliff site located near Alberta in Canada. It was a buffalo jump used for some 5,500 years by the Blackfoot people, (so-called because of the colour of their moccasins). It was only abandoned following European contact in the 19th century when the buffalo nearly became extinct. A buffalo jump is a cliff over which



buffalo were driven so that they plummeted to their deaths and could be easily butchered for meat, hide and other resources.

At the top of the cliff the Blackfoot people created temporary lanes to drive the buffalo in the direction they wanted. These were made from markers made from piles of rock and many survive today. The tribe members would entice the buffalo into the lanes either through chasing them or imitating the sound of lost calves; the rest of the tribe would then chase the buffalo to cause them to stampede over the cliff edge to their doom.

At the bottom of the cliff a vast number of buffalo skeletons have been found, along with thousands of stone tools. The build-up of material over the millennia that the site was in use is over 11m deep. However, the animals weren't butchered here but were processed in a camp area below the kill site. Here the meat was dried in strips and the bones boiled to provide grease.

The site was first excavated in 1938 by the American Natural History Museum, led by Junius Bird. It is now designated as a World Heritage Site and a visitor's centre has been built close by.

Plot Hook...

Beyond the verge where the buffalo would be driven to their deaths, thousands of year's worth of remains still wait to be uncovered by archaeologists. A recent discovery has alarmed those working at the site: what appears to be a human jawbone among the animal skeletons. In light of this discovery many of the other fragments of bone discovered have tentatively been reclassified as human. That is not the whole of the mystery though. Some of the human remains show certain similar deformities: pointed teeth, elongated skulls, clawed hands and strange, almost cloven, feet. In the past the inhabitants of the area were often plagued by Ghouls who would steal the inhabitants' children and replace them with Ghoulish changelings.

The people of the settlement would hold annual rituals where those suspected of being changelings would be sent to their deaths over the side of the cliffs, although the Ghoulish offspring were good at hiding and many innocents died this way. Perhaps Ghouls, or their descendants, are still active in the area, perhaps even present among the staff at the site..?

THE MIDDLE EAST

Petra, Jordan

The city of Petra was rediscovered by the Western world in 1812 by a man of many names. Johann Ludwig Burckhardt changed his name to help him on his quest to find the source of the River Niger in Africa, on commission from the Association for Promoting the Discovery of Interior Parts of Africa. Burckhardt decided to travel as an Arab, giving him access to areas he may not have otherwise been able to reach. After travelling down from Syria he decided to head to the Valley of Moses (Wadi Mousa) rather than heading towards Cairo. To assuage the suspicions of his guides he told them that he wished to sacrifice a goat to the prophet Aaron. At the end of the valley Burckhardt found the city of Petra. Although it was known to locals, he was the first westerner in over 1,000 years to see the city.



The city of Petra was originally inhabited by the Nabataeans, who had a trading network centred around areas conducive for agriculture. It was built in the desert and the local water supply was managed by controlling flash floods through a system of dams, and storing the water for when there was a drought. The city was brought under the control of the Romans in 106 AD and went into decline under their rule. An earthquake in 363 AD destroyed much of city.

The Nabataeans mainly worshipped the god Dushara (born of a virgin goddess) and a trinity of goddesses.

They are depicted in the rock faces along the valley.

Plot Hook...

Tombs open in the walls of the city of Petra like black holes, containing the citizens of a city whose names have long since passed from living memory. In some of these tombs, however, unusual artefacts have been found suggesting an origin outside ancient Jordan. A recently discovered cluster of tombs contains bodies draped in the finery of an unknown kingdom and buried with small soapstone-like discs, possibly currency. So far analysis of the artefacts has been difficult. The artefacts are like no others known. This is because these are the remains of a group of travellers from the city of Sarnath in the Dreamlands who entered Petra through an undiscovered portal nearby and lived out their lives in the city. Perhaps these otherworldly travellers brought some of the wisdom of the Dreamlands with them, or more complex and dangerous artefacts still lying in the collapsed tombs in the bowels of the city..

Nineveh, Mosul, Iraq

The biblical city of Nineveh was discovered and excavated by Austen Henry Layard in 1849. He first excavated the city of Nimrud some ten years earlier, believing it to be the location of Nineveh. As excavations proceeded he realised that this was not the case and instead started excavations at a mound named Kouyunjik. This had first been investigated by another Briton, Claudius Rich, in 1820.

Layard, in the tradition of the time, employed a local workforce to undertake the excavations. He had to be summoned to the site when the entrance to the city was found.

Excavations over the next two years uncovered the richly decorated palace, as well as a number of cuneiform tablets. Many of the recovered artefacts were sent to the British Museum in London, where they remain today.

The excavations at Nineveh caught the imagination of the public. At a time when traditional biblical views were being challenged by advances in science (see *History of Archaeology*, p. 3), here was the discovery of a city described in the Bible. This was further supported once cuneiform was translated in 1835.

Plot Hook...

It wasn't until early morning that they found the looters. The inner chamber was marked with bullets where one of the Iraqi security personnel had fired his automatic into something. There was little evidence to suggest what. He sat a few feet away hunched against a wall, and very shortly a cover was placed over him so nobody would have to look at him any longer. The rest of the looters lay in various states of dismemberment around the chamber, which looked like it had recently been polished by some-kind of industrial machinery. A strong smell of acid permeated the room. The sole contents had been a central altar inscribed with a prayer appeal for protection from the goddess Ishtar. The altar



now lay in fragments, although the relief inscribed with the prayer, evidently the looter's prize, remained intact. A trail of residue, painful to the touch, led from the remains of the altar to a trough leading down beneath the ancient complex. A phrase in Akkadian had been engraved on the wall, as if by some high power acid: *FREE...*

Ur, Dhi Qar Governorate, Iraq



Ur was first recorded by an Italian traveller, Pietro della Valle (1586 – 1652), in the 17th century and was first excavated, on a small-scale, in 1854 by the British Consul. These excavations revealed that the central mound was a type of stepped pyramid known as a ziggurat and that the site was likely to be rich in antiquities.

In 1922 Leonard Woolley, an experienced British archaeologist, was named as director and excavations began, funded by the British Museum and the University of Pennsylvania. His excavations uncovered the remains of a city which dated back some 7,000 years. Woolley also excavated a graveyard containing 1,850 grave pits. He also found an area containing grander tombs, which included burials of seemingly high status individuals buried with the bodies of slaves. One tomb contained the bodies of 68 women lying in neat rows, each still with a small cup that likely held the poison they drank to kill them.

Woolley treated the site well. He excavated using the stratigraphic method, carefully removing each layer to reveal what was beneath. Although he still used local labour to excavate the site, he closed the area that later proved to contain the graveyard until he and his men were more experienced. After five years Woolley finally allowed the graveyard to be reopened.

The city at Ur contained several phases, built by the civilisation of Sumer, 6,000 years BC. While large areas were given over to agriculture, large cities also grew up. These had to be rebuilt as the only available building material was mud brick. This led to the construction of tells, where buildings were built on top of the remains of earlier ones. The Sumerians often appeared to have

been at war with each other. However, they also established wide trade links and are attributed to being the first people to write down their language, categorise a legal system, develop a system of arithmetic – which was used to devise a system of time keeping that we still use today – and also credited with inventing the wheel. The Sumerian Empire lasted 1,000 years and gradually declined as Semitic peoples moved in and the area was invaded by other empires.

Plot Hook...

The chamber containing the bodies of the dead women is the most talked about. It is only through careful management and veiled threats that the usual workers will allow themselves to be in here at all. Even the hardiest of excavators had been rattled by the discovery of the 68 women who had apparently drunk poison to kill themselves *en masse*. Workers complained of faint echoing screams coming from the walls, along with occasionally heard far-off sounds of butchery. Finally after a workman collapsed from a heart attack none of the workers would enter the chamber at all. For the archaeologists it seemed convenient that a small group of hardworking Arabs appeared out of the desert to offer their services at a low fee. They don't mix with the local workers at all but seem dedicated to the task of digging deeper into the chamber.

The dead women were followers of Shub-Niggurath, and were in the first stages of turning into the children of the dark mother when they were killed by city guards who got wind of the plot from a traitor within the group. The temple was abandoned and forgotten until it was discovered by the archaeologists. Word drifted back to a minor cult of the god and they hope to uncover the process of turning themselves into children of Shub-Niggurath, or failing that, break into where the bodies of the female cultists are being held and resurrecting one or two for interrogation...

AFRICA

Tutankhamun, Thebes, Egypt

Tutankhamun's tomb, located in the Valley of the Kings in Thebes, was discovered after many years of searching in 1922. Howard Carter had been excavating in the valley for six years under the patronage of Lord Carnarvon. In his final season at the site Carter uncovered what appeared to be an

undisturbed tomb entrance, on 4th November, 1922. Carter had to wait until his patron could arrive in the valley before the antechamber to the tomb was opened on the 26th November. Due to the extent of excavation that was undertaken, it was not until the following February that the tomb itself was opened. Excavations continued for eight years and in 1930 the last objects in the tomb were finally removed.



Tutankhamun, the son of Akhenaten, came to the throne in 1333 BC at the age of nine. He reigned for only ten years and died at the age of 19 in 1314 BC. He was only a minor king but became a global sensation purely because his tomb is the only royal tomb to have survived without major grave robbing. Although his tomb had been broken into, the majority of the goods had been left and it is likely that the thefts took place soon after initial burial.

The artefacts found within the tomb were startling. Nothing like it had been seen before or since. Apart from the sarcophagus and mummy of the king, artefacts included golden shrines, jewellery, gold figures and the famous gold death mask. Today, the artefacts are held in the Cairo Museum though exhibitions have been held elsewhere. The mummy of Tutankhamun still resides in his tomb in the Valley of the Kings.

Plot Hook...

Some have alleged that the death of Lord Carnarvon, a key figure in the excavation of the tomb of Tutankhamun, was caused by a 'mummy's curse', although conventional wisdom suggests blood poisoning. Lord Carnarvon was the chief financier of Howard Carter and held an interest in archaeology, but he was also crippled by an automobile accident that left him desperately weak. It would be no surprise that he perished in the hot sun of Egypt, although there are certain accusations regarding Carnarvon's last moments.

Friends in England remarked that despite his wealth Carnarvon held certain debts to rare book dealers, and there was a sizeable collection of occult manuscripts in his personal library, most relating to ancient methods of health and healing. There were also the allegations by an Arab excavator that he observed Carter and Lord Carnarvon exchange a mysterious golden cylinder just after the tomb's discovery, and a story from Carnarvon's valet that in his last moments Carnarvon was pouring over an ancient scroll of hieroglyphics. Last of all there is the rumour that Carnarvon's coffin was found to be unusually light by several of the attendants on its way to his burial place at Beacon Hill...

King Solomon & the Queen of Sheba, Zimbabwe



Like Layard and Schliemann, Karl Mauch set out to find a particular city. In this case he was looking for King Solomon's city of Ophir. After venturing into the wilds of Africa in 1867 to find a rumoured lost city between the Limpopo and Zambezi rivers, Mauch was abandoned by his guides, mainly because of his poor treatment of them. He was held captive by a local chief and heard about another white man in the area who had 'gone native'. Mauch wrote to him for help and he bought Mauch's freedom. After being freed Mauch explored the area and, while investigating a local legend about a magical cooking pot that maimed those who saw it (!), he climbed Ghost Mountain and from the top of that mountain he saw the ruins of a city.

Mauch believed that the city he had found was built by the Queen of Sheba, who had travelled to Jerusalem to meet King Solomon. He believed that an enclosure at the site was a model of King Solomon's temple in Jerusalem. In 1872 Mauch returned to Europe and announced his discoveries. In view of other recent discoveries of biblical sites there was little reason to doubt his theories.

However, later excavations at the site disproved Mauch's theories. Other excavations followed, including those by Gertrude Caton-Thompson in the late 1920s. Later discoveries revealed that the site was medieval in date and had been built by an empire of indigenous peoples and is now known as Great Zimbabwe, which gave its name to the country in 1980 (formerly Rhodesia).

Plot Hook...

Somewhere underneath the ruins of Great Zimbabwe there is an underground lake than can be reached only through a secret entrance in the highlands. None of the nearby inhabitants or archaeologists have discovered this incredible secret yet, but it may only be a matter of time. The excavations might go more speedily if a neighbouring tribe wasn't waging a campaign of attrition against the excavators, disrupting activities through so far non-violent action such as blocking roads and driving away workers.

The underground lake that Great Zimbabwe is built on was of great benefit to the city and allowed it to thrive where others did not, including small scale mining operations leading to rich seams of precious metals. However, the builders of Great Zimbabwe accidentally stumbled upon one of the many lairs of the god Tartogra. The city's water was replaced with oily filth and minions of the god came out at night abducting citizens. The builders performed rituals to seal Tartogra within the underground lake, but had no choice but to abandon the city. Some of the city's original inhabitants moved out and their descendants still know shreds of the stories about the danger below and what might be released if the archaeologists penetrate down to the lake...



EXAMPLE CHARACTERS

Marcus Smythe, Gentleman Archaeologist

Born in 1852 to a mill owner father and a genteel mother, Marcus was educated at Eton. During his summer holidays Marcus liked to dig in the grounds of his father's house. He uncovered a variety of artefacts, including old pottery and a metal brooch. This sparked an interest in archaeology and he went on to study ancient history at Cambridge. He undertook the Grand Tour in 1873-75, enjoying such sites as Pompeii, the Parthenon and many Greek temples.



When he returned to England Marcus took up a position at the museum in Harrogate. His first excavation was at Scamridge Dyke. Still working in the Yorkshire Wolds, Marcus has developed a specialism in Roman military settlement. At a site in Ebberston a strange artefact was recovered from a pit within a hut. Marcus has since been troubled by peculiar dreams. If he could just find the key the creature in his dreams needs to get out, perhaps he will be able sleep.

Characteristics (%)

Strength: 50	Intelligence: 80	Dexterity: 70
Stamina: 60	Presence: 60	Willpower: 70
Size: 65	Hit Points: 55	
Mental Fortitude: 70		

Abilities

(Percentile)

Archaeology	76
Geology	36
History	30
Latin	41
Library Usage	55
Persuasion	30
Status	50
Take Notice	60

Abdul Hassan, Foreman

Born in Egypt in 1880 Abdul's career in archaeology began at age 12 as a basket carrier. He wanted to make his way up in the world so carefully examined the spoil in his baskets for anything the excavators might have missed. Fortunately he soon struck lucky and he found a necklace, for which he was handsomely rewarded. His keen eye for artefacts and new features led to his progression to an excavator and eventually as a foreman. He has worked with several well-known



Egyptian archaeologists, including Petrie. Superstitious to his core, Abdul sees signs and portents in anything bad that happens. Abdul has recently finished work at a cemetery site in Upper Egypt and is looking for a new commission.

Characteristics (%)

Strength: 70

Intelligence: 50

Dexterity: 70

Stamina: 75

Presence: 50

Willpower: 50

Size: 65

Hit Points: 50

Mental Fortitude: 70

Abilities

(Percentile)

Archaeology

46

English

56

Geology

16

History

25

Occultism

30

Persuasion

45

Silver Tongue

15

Status

20

Take Notice

70

Stephen Harrison, Explorer

Stephen was born in India in 1873. Interested in his surroundings and the great outdoors he spent his early years exploring the area around his home with the local boys. He was sent to boarding school in England at 11 where he excelled at sport but also found an interest in ancient history. While at school, inspired by adventure stories, he decided that he was going to find a lost civilisation. University followed and Stephen joined an expedition to Iraq in 1893. He learnt how to survey a site for its potential as well as the basics of archaeological excavation. But it was the discovery of sites that interested him. Stephen is currently planning an expedition to South America.



Characteristics (%)

Strength: 70

Intelligence: 60

Dexterity: 65

Stamina: 60

Presence: 60

Willpower: 55

Size: 65

Hit Points: 70

Mental Fortitude: 55

Abilities

(Percentile)

Archaeology	66
Ancient Greek	22
Climbing	60
Dodging	50
History	40
Library Usage	50
Medic	40
Persuasion	30
Pistol	50
Riding	35
Spanish	16
Status	45
Take Notice	55
Throwing	35

A DAY IN THE LIFE OF...

The following provide examples of what a typical day in the life of an archaeologist might be like throughout different eras of the profession.

A Victorian Antiquarian

From the Diary of Edward Knight, 4th June, 1860

There is an interesting mound located on land owned by my neighbour, Sir William Talbot. After discussion with him and careful study of his estate maps, Sir William agreed to allow me to investigate the mound. We arranged that any artefacts discovered within the mound would be granted to me initially for analysis. Sir William will then look over what has been found, will keep the things he wants for his personal collection and then I may keep any artefacts he does not want,

We chose the 3rd of June for the excavation. A party was assembled that contained my wife Lydia and I, Sir William, his wife Anne, their son George and his wife, his daughter Elizabeth and her friend, Emma. Our neighbours, the Reverend and Mrs Matheson made up the final members of our merry party. Sir William had organised a group of his labourers to undertake the excavation, which was directed by he and I. A fabulous picnic was laid on to ensure that we were entertained while the excavation was underway.

Once the women were settled, those men interested in history joined us in an examination of the mound. We had made an initial survey the day before but now agreed the section through the top of the mound that should be excavated. It was decided that a width of two feet would prove sufficient. The men were instructed where to begin and we marked the area with string. There was a rousing cheer as the turf began to be removed from the mound.

We watched the workmen for a few minutes then returned to the party. Until something was found there really wasn't anything of interest to see. Elizabeth Talbot gave a delightful reading of some poetry while we enjoyed a slice of rather delicious pie that our cook had prepared for the occasion. After some hours of digging, the foreman called us over.

They had dug down some three feet and had uncovered the first of the day's artefacts. It was a pottery jar, quite rough but intact. Upon opening the jar, found within was a quantity of ashy material which we speculated was the burnt remains of a feast for the pagan buried here to take with him to the

afterlife. Soon after we were rewarded in our patience as the workmen recovered a fine bronze necklace, which all the ladies exclaimed over. Other finds of the day included more pottery, stone arrowheads and some bone. I will seek the opinion of our local doctor in the first instance, though to my view these remains are unlikely to be of human origin.

A 1920s Archaeologist

From the Diary of Stephen Everson, March 25th, 1922

Today I arose before dawn as is the custom here in Syria. To avoid the hottest part of the day we must work in the cooler hours which means an early start. I wish I had not stayed up quite so late playing cards last night. After a quick breakfast we headed out by cart or horse to the excavation site. We are excavating a Tel and the excavations are into the third season. As a consequence the workmen are experienced and only require minimal supervision.

We are using a stratigraphic technique to ensure that each layer of evidence is excavated and recorded properly. The workmen clear a layer of soil from each section and alert us if they find an artefact, such as pottery, or when they have finished each section.

We halted at around 11 o' clock in the morning as the temperature was beginning to rise too high for work to continue. Under the canopy set up for that purpose we inspected the finds located thus far. In the section of the site I am in charge of we have discovered a quantity of pottery fragments. I made a record of these in the site book, as well as noting the name of the workman that found them. Jonathan, the lead archaeologist, likes to pay the workmen for their discoveries to ensure that they don't steal anything. They don't get much for pottery but are well rewarded for jewellery and the like. This also ensures we retain the artefacts for the British Museum who are funding the excavation.

We returned to the house where we are staying for a light lunch and siesta. Before heading back to site I gave the pottery fragments to Jonathan's wife, Eleanor, who examines the artefacts. The afternoon continued in much the same way as the morning. Sadly nothing of great note to report.

A Modern-day Archaeologist

From the Notebook of Site TH12

Excavations at Tallow Hill continue. Today we will excavate sections through the ditch that encloses the site, as well as some of the pits located in the south east corner. They don't appear to form a structure and it is likely that they will be rubbish pits of some kind. There's also a group of post holes that weren't visible on the geophysics but the evaluation trenches had found similar features so their discovery wasn't too much of a surprise.

I have asked two of the site assistants to excavate sections through the enclosure ditch. The ditch is wide in appearance and based on its form it is likely to be quite deep. The post holes will also be excavated and recorded and I want to get the site plan of the un-excavated areas finished today.

Later on we have a meeting with a representative from the client team, the client's archaeological consultant and the County Archaeologist. The meeting is to review the results of the excavation undertaken to date as well as to decide if we need to extend the excavation area eastwards. As there are a couple of linear features heading in that direction I am hoping that we will get permission to do so.

I will spend some time this morning in the site portakabin checking the finds found to date and updating the records. I then plan to half-section one of the pits and undertake a section drawing so that we have an idea of what these pits may represent before the meeting.



FAMOUS ARCHAEOLOGISTS

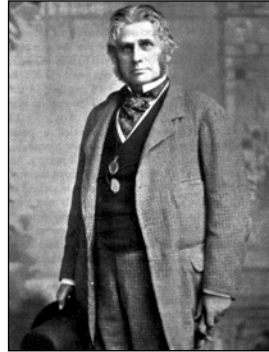
Augustus Henry Lane-Fox Pitt Rivers

(Born Augustus Henry Lane-Fox)

14 April, 1827 – 4 May, 1900

Notable Sites: Multiple sites on his land at Cranborne Chase over 17 years.

Other Information: First UK Inspector of Ancient Monuments (1880), pioneered archaeological recording. Founder of Pitt Rivers Museum, Oxford (1884).



O.G.S. (Osbert Guy Stanhope) Crawford

28 October, 1886 – 28 November, 1957

Notable Sites: Jebel Moya in the Sudan as part of Wellcome's team, long barrow at Wexcombe Down, England (1913-14).

Other Information: Initial member of Routledge expedition to Easter Island in 1914, pioneer of use of aerial photographs to find archaeological sites, the first Archaeology Officer for the Ordnance Survey, founder of *Antiquity* (1927), an archaeological journal still in print today, travelled by motorised bicycle with a map stuck to the handle bars, wore a flat cap which he would throw on the floor when making a point.

Heinrich Schliemann

6 January, 1822 – 26, December, 1890

Notable Sites: Troy (1870-75, 1878-79, 1882-83, 1888-1890), Treasury of Minyas (1875), Mycenae (1876).

Other Information: Controversy over discovery of gold he claimed to belong to Helen of Troy; may have excavated through the actual site of Troy to earlier deposits.

Sir (Robert Eric) Mortimer Wheeler

10 September, 1890 – 22 July, 1976

Notable Sites: Verulamium, St. Albans, England (1930-33), Maiden Castle, Dorset, England (1934-37), Stanwick Iron Age Fortifications, North Yorkshire, England (1951-52), Mohenjo-daro, Sindh, Pakistan (Late 1940s – early 1950s).

Other Information: Excellent recording techniques, Director of the National Museum of Wales (1920-26), Keeper of the London Museum (1926-44), various roles in Pakistan and India post-World War II, knighted in 1952 for services to archaeology. Published widely and appeared on both radio and television.

Leonard Woolley

17 April, 1880 – 20 February, 1960

Notable Sites: Corbridge, Northumberland, England (1906); Carchemish (1912-1914); Ur, Iraq (1922-1934); Tell Atchana, Al Mina, Syria (1937-1939, 1946-1949).

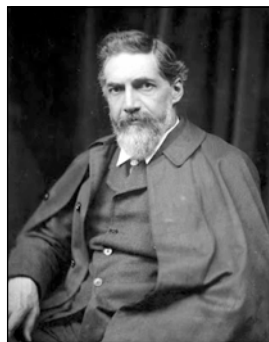
Other Information: Assistant Keeper of the Ashmolean Museum 1905; excavations at Ur were the basis for Agatha Christie's book *Murder in Mesopotamia*; Christie met her husband Max Mallowan at Ur.

Professor Sir William Matthew Flinders Petrie

3 June, 1853 – 28 July, 1942

Notable Sites: Survey of Great Pyramid at Giza, Cairo, Egypt (1880); Tanis, Egypt (1884-1887); Tell-el-Amarna, Egypt (1891); Merneptah Stele, Luxor, Egypt (1896-).

Other Information: Professor of Archaeology at University College, London, 1892; Published *Methods and Aims in Archaeology* in 1904; on his death Petrie donated his head to the Royal College of Surgeons. It was mislaid during World War II but was eventually located in London.



Arthur Evans

8 July, 1851 – 11 July, 1941

Notable Sites: Knossos, Crete, Greece (1900-1905).

Other Information: Knighted in 1911 for services to archaeology.

Richard Wetherill

1858 – 1910

Notable Sites: Mesa Verde, Colorado, USA (1888-1891); Chaco Canyon, Colorado, USA (1896-1910).

Other Information: A rancher by trade who became an archaeologist by chance. Accused of looting and destroying Native American sites, though later cleared. Shot and killed in 1910 by a Navajo Indian who owed him money.

V. (Vere) Gordon Childe

14 April, 1892 – 19 October, 1957

Notable Sites: Skara Brae (1927-1930); various Iron Age hillforts including in Berwick (1932), Angus (1933-4), Northern Ireland (1935) and Argyll (1936-37).

Other Information: Professor of Archaeology at the University of Edinburgh, 1927-1946; Director and Professor of European Prehistory at the Institute of Archaeology, 1946-1956. Good friends with O.G.S. Crawford. Involved in socialism in his native city of Sydney during World War I.

Katherine Routledge

1866 – 1935

Notable Sites: Easter Island (1914-1915).

Other Information: Graduated from Oxford, 1895. With her husband, William Scoresby Routledge, lived with Kikuyu people in British East Africa. They published *With A Prehistoric People* in 1910. Published *The Mystery of Easter Island* in 1919.



Kathleen Kenyon

5 January, 1906 – 24 August, 1978

Notable Sites: Great Zimbabwe, Zimbabwe (1929); Verulamium, St. Albans, England (1930-1935); Jericho, Jerusalem (1952-1958).

Other Information: First female president of the Oxford University Archaeological Society, joint creator of the Wheeler-Kenyon Method with Mortimer Wheeler.

Howard Carter

9 May, 1874 – 2 March, 1939

Notable Sites: Various sites, Luxor (1899-1904); Valley of the Kings (1914, 1917-1932), including discovery of Tutankhamun in 1922.

Other Information: First Chief Inspector for the Egyptian Antiquities Service of Upper Egypt in 1899, then Lower Egypt in 1904. Employed by Lord Carnarvon in 1908.

Gertrude Bell

14 July, 1868 – 12 July, 1926

Notable Sites: Sites in Syria (1907; sites in Turkey (1907-1908); Mesopotamia (1909-1913).

Other Information: As "Liaison Officer, Correspondent to Cairo" Bell was the only female political officer in World War I. Instrumental in the creation of Iraq following the war. Helped create the Baghdad Archaeological Museum.



EQUIPMENT LIST

These are far from exhaustive lists but they give an idea of the sort of things to be found on an archaeological dig.

Victorian Period

Picks
Shovels
Labourers
Drawing materials
Cameras (tripod mounted)

1920s

Picks
Shovels
Trowels
Labourers
Drawing materials
Survey equipment (tape measures and pins)
Cameras

Modern Day

Trowel (The British use WHS; the Americans, Marshalltown)
Leaf trowel
Dental picks
Mattocks
Shovels
Buckets
Wheel barrows
Drawing boards and film
Kit for drawing – Most field archaeologists have their own, containing items such as string, nails, line levels, hand tapes, pencils, erasers & plumb bob.
Survey equipment – levels, tape measures and measuring staves
Paperwork (An extensive amount. May be replaced by computer tablets.)
Cameras – Traditional film and digital
JCB Digger (excavator) & driver
Dumper truck
Very occasionally, small tools and toothbrushes, primarily for excavating human remains.

FURTHER READING

The following texts may provide useful further reading in archaeology.

Agatha Christie (Fiction)

Appointment with Death

Death on the Nile

Murder in Mesopotamia

Agatha Christie (Non-Fiction)

Come, Tell Me How You Live

Glyn Daniel

The Origins and Growth of Archaeology (hard to find)

Kevin Greene

Archaeology: An Introduction

Elizabeth Peters

The Amelia Peabody series

Justin Pollard

The Story of Archaeology in 50 Great Discoveries

Colin Renfrew & Paul Bahn

Archaeology: Theories, Methods and Practice

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