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# *The Story of Archaeology*



AGNES ALLEN



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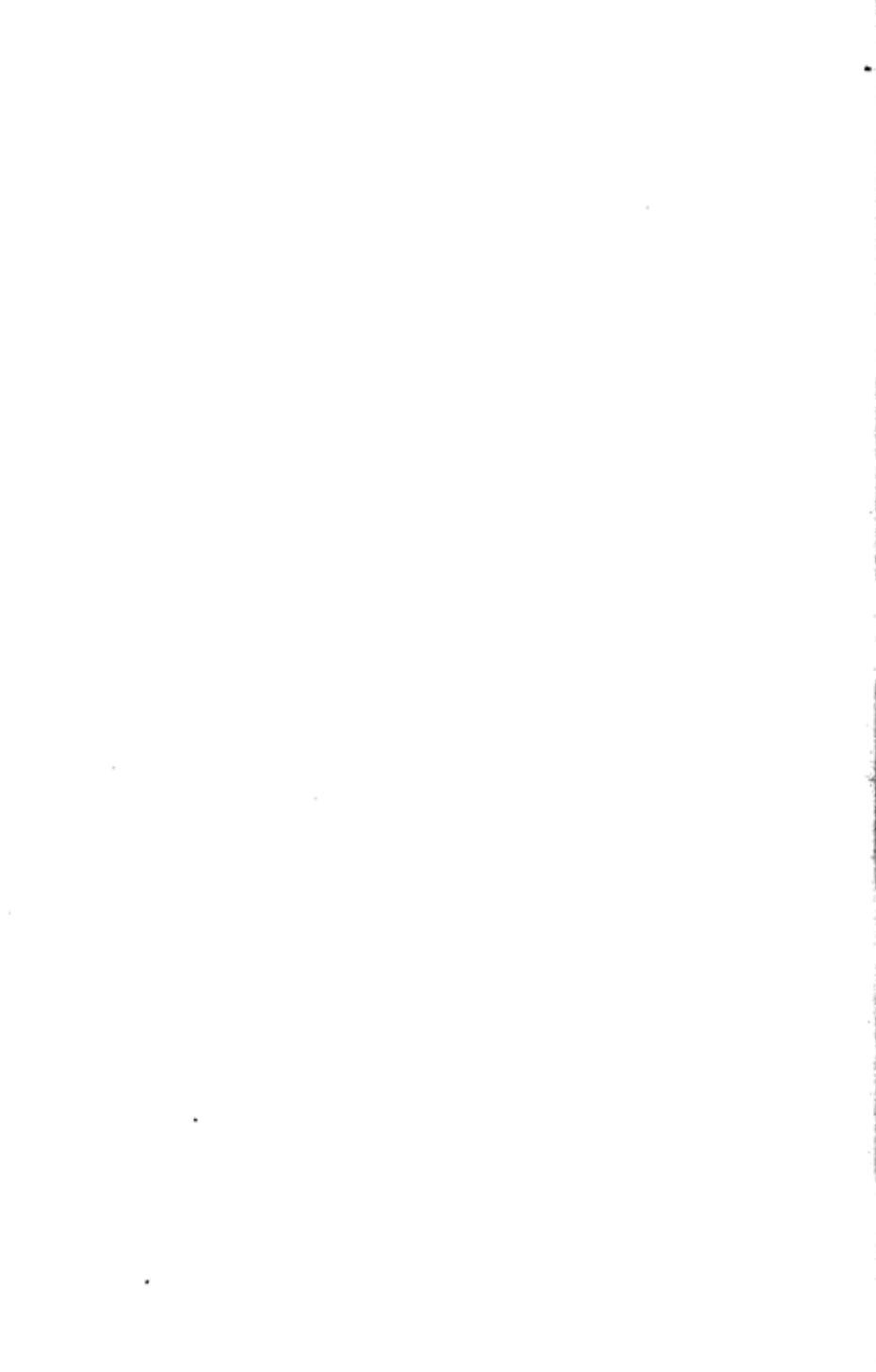
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## CHAPTER I

# *Why Must Archaeologists Dig?*

**W**hat is archaeology? If you look the word up in a dictionary you will find it defined as 'the science which deduces a knowledge of past times from the study of their existing remains'.

All historians, of course, study any 'existing remains', such as houses, furniture and so on, that may have survived from the period they are interested in. But they usually give far more attention to the *written* records—wills, letters, contracts, diaries, expense accounts, and things of that kind—left by the men and women who were alive at the time.

People who want to find out something about human beings who lived before the days of written history must first hunt for any remains such people may have left—which often means digging for them—and must then study and try to understand them. We call the men and women who do this archaeologists.

Often an archaeologist will have no written records at all to help him, and if he does find some they may be in a long-forgotten language and written in a strange unfamiliar way, so that they can be read only after years of study, and perhaps not even then.

Why does the archaeologist have to *dig* for the 'existing remains'? How is it that the relics of ancient peoples are hidden under vast quantities of earth and stone, as they so often are?

When the relics are found in graves, the answer, of course, is obvious. The bodies of the dead were buried intentionally, often

## *Why Must Archaeologists Dig?*

with their possessions, and mounds of earth or stone were erected over them. The round or long grass-covered mounds which we can see dotted about the hill-tops in Britain and in other parts of Europe, and which we call 'barrows', are graves of this kind. It is not, perhaps, quite so easy to understand why houses, villages and even great cities have disappeared below the surface of the earth, and have sometimes left no visible traces above ground at all.

One reason why this happens is that in western Europe and in many other parts of the world, when a building collapses and is left undisturbed, weeds begin to grow over it almost immediately. Most of us, probably, know of at least one site now overgrown with grass, shrubs and even trees, where some building stood which was destroyed during the war. It is easy to see that when something of the same kind happened to, say, a Roman villa in Britain, the ruins were completely hidden in a few years. As grass and other vegetation grew and died down season after season the blanket of soil covering the site gradually became thicker and thicker until, after hundreds of years, the original villa was several feet underground, lost and forgotten.

But in villages, towns and cities, collapsed houses are not usually left undisturbed for long. Bricks and stones are, perhaps, carted away to be used again. Then what is left of the lower rooms may be filled in and levelled off, and a new house built on top of them.

We all know that remains of Roman London, such as the famous Temple of Mithras which was found in 1954, are sometimes found twenty-five or thirty feet beneath the streets and buildings of modern London—and the same is true of other ancient cities.

Visitors to Rome can go into a church which is itself nearly a thousand years old, and can then go down a staircase into another church dating from the earliest days of Christianity which has been discovered beneath it. But beneath that again is yet another stairway leading down into the remains of a dwelling house and temple of pre-Christian times. This was at ground level when it was built, but is far, far below the streets

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of modern Rome. Palaces of the Roman Emperors, too, were built one above another, so that now, after years of excavation, visitors can climb a steep hill to the ruins of the latest palace, and can then go down through layers of history and see what is left of those that were built centuries earlier.

In Rome, London, and similar cities, therefore, which have been occupied continuously since their earliest days, the present ground level is much higher than that of the original city. In other words, towns or villages which are inhabited for a very long time gradually raise themselves as the centuries pass and erect a hill which was not there originally. If for some reason the spot is finally deserted, weeds grow over the whole place, and in time there is nothing but a grass-covered mound to show that a city once stood on the spot.

In Europe the hill which a town gradually builds for itself may be only a low, inconspicuous one, but in such countries as Mesopotamia, Syria, Palestine and other countries in the Middle East, walls are often built of sun-dried mud bricks, and are very thick. When they collapse they make quite a high heap of material which is not worth carrying away. A fresh house is built on top, and after a few generations the mound which the village or town has itself made, and on which it stands, will be quite a high one. If such a place is deserted after being occupied for hundreds or perhaps thousands of years, the hill, or 'tell' as it is called, which its ruins make will rise conspicuously for perhaps a hundred feet above the plain which surrounds it.

Archaeologists are not, of course, interested only in civilized people who knew how to erect buildings and who lived in cities. Some of them are even more interested in men of far earlier times who lived in the open or in caves. The remains such men left behind them have also been buried, but by nature in ways that we shall hear more about later.

In whatever way objects have come to be underground, the exact position in which they are found is tremendously important. Thousands of years may separate one layer of soil or gravel from another, or, in a city, one building level from another. Archaeologists must *dig*—but that does not mean that they sim-

## *Why Must Archaeologists Dig?*

ply attack any likely site with picks and shovels and roughly drag out whatever they may find—though that was the way in which they used to go to work.

Modern excavating is done by highly trained people who work very carefully, often sifting every scrap of soil and marking on plans and diagrams the exact position of everything they find. They may use small penknives, or fine brushes, to remove the soil from fragile objects, or may even gently blow it away, and they take infinite care to preserve objects which might collapse if they were moved, and to restore and repair things which have partly decayed or been damaged.

So when an important site is being excavated there are usually other experienced people present as well as the trained archaeologist who supervises the work. There will probably be an architect; a surveyor; an engineer; a photographer; an artist to make copies in colour of any wall-paintings or mosaics that may be found; men who know how to preserve buildings, bones, metals and other materials; and experts of many other kinds.

To-day anyone who digs haphazardly, destroying important evidence as he goes along, and who keeps what he finds for himself, without even making careful records of exactly where he found it, is very unpopular indeed. But it has not always been like that.

Archaeology is really something very new. Until a few hundred years ago no one took very much interest in the relics of past ages which they saw around them. They could not help *noticing* some of them, of course, and they often invented fantastic stories to explain how odd and unusual things came to be where they were. In many places, for instance, huge solitary stones stand on the hill-tops, and often there is a local legend that the Devil, or St. Dunstan, or some saint of importance in the district, threw them there, often from some other hill miles away. Long mounds, or barrows as they are called, are often said to be the graves of giants.

All kinds of legends grew up during the Middle Ages around the circles of huge stones that have survived in many places. Often they are said to be maidens, turned to stone for dancing

## *Why Must Archaeologists Dig?*

on Sunday, and three circles grouped together in Cornwall are called the Hurlers, because they are said to be men who played 'hurling the ball' on a Sunday, and so were turned into stones.

The famous Rollright Stones, which stand on a hill-top on the boundary between Warwickshire and Oxfordshire, are said to represent a king—who stands alone—and his men, who stand in a circle a little way off. According to the story, the king was intending to conquer all England, but as he approached this hill-top he met a witch who told him that if after taking seven more strides he could see the village of Long Compton, he would be successful. Thinking he could not fail to have a good clear view of the valley in which the village stood, the king took the seven strides forward confidently—but he did not know that there was a long barrow in the way which hid Long Compton. Then the witch turned him and his men into stones.

It was in Italy, from about the thirteenth century onwards, that men first began to take a real interest in the relics of the past. The eight hundred or more years which followed the fall of the Roman Empire we call the Dark Ages; the re-awakening, or re-birth of learning, which followed the Dark Ages we call the Renaissance. It was then that people began to hunt for and read books written by the poets and thinkers of Ancient Greece and Rome, and to study the remains of the fine buildings the ancient architects had built.

Wealthy and learned men, popes and princes began to make private collections of classical (Greek and Roman) statues. Before long the 'new learning' spread over Europe, and wealthy men of other countries sent agents to Italy to buy works of art and curios for them.

These collectors, and the men who found things for them, were not archaeologists. Sites were not excavated in order that scholars might learn all they could about the life of the past but in order that things which were beautiful or strange might be found with which to adorn palaces and villas. Nevertheless, this new interest in the men of the ancient world and the things they had known and could do, did encourage men everywhere to look

## *Why Must Archaeologists Dig?*

at the world around them, and the relics that had survived from past ages, more carefully than they had done before.

In Britain, for instance, during the reign of Henry VIII, a man named John Leland was appointed 'King's Antiquary', and he travelled about England searching for records of ancient history in the libraries of colleges and abbeys. He made notes about such things as old castles and other ancient relics which he saw or heard about on his travels.

In the next century John Aubrey, who was encouraged by Charles II, wrote careful accounts of such striking prehistoric monuments as the great circles made up of huge stones which we call Avebury and Stonehenge.

In the eighteenth century the interest which educated people in Britain took in ruins and similar things increased enormously, and societies such as the 'Society of Antiquaries' were formed for their study. The first secretary of the society was named William Stukeley. He made very careful surveys, drawings and plans of Stonehenge, Avebury and similar monuments as they were in his time, and his work has been very useful to later students.

Men such as Stukeley, Aubrey, Leland and many other writers and travellers of the sixteenth, seventeenth and eighteenth centuries, in Britain and other countries, had no way of telling the age of any ruins, monuments or other relics of which they had no written records. Old manuscripts could tell them something about Ancient Greece and Rome, and so about the remains which those great nations had left behind. But there were no books to tell them who had built Stonehenge, or whose bodies were buried in the barrows on the chalk downs, or who had made the stone, bronze or iron tools and weapons that were sometimes found.

In Britain all such pre-Roman things were lumped together as the work of 'Ancient Britons'. Most people at that time probably thought that no one would ever know any more. Dr. Johnson, for instance, said emphatically: 'All that is really known about the ancient state of Britain is contained in a few pages. We can know no more than what old writers have told us.'

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The earliest writer to tell us anything about Britain was Julius Caesar himself. He wrote an account of his invasion of Britain in 55 and 54 B.C., and of the people he found there. He described the 'Druids', the powerful priesthood of the Celtic peoples of Britain and Gaul (France), and their rites and ceremonies. Eighteenth-century people were fascinated by these descriptions, and for a long time Stonehenge and similar monuments were described as Druidical temples.

Throughout the eighteenth and nineteenth centuries a great many antiquarian societies were formed in different parts of Britain, and their members liked to visit ancient monuments, invent explanations for the puzzling ones, and sometimes to excavate them. But their expeditions were often more like country outings than serious investigations. While a few labourers dug into a burial mound on the downs, the members of the society strolled about, played games, and enjoyed the picnic meals they had brought with them. In some old magazines there are drawings of such scenes, in which we are shown gentlemen in top hats and frock coats, and ladies in crinolines and bonnets and carrying parasols, all thoroughly enjoying a day in the open air.

Independent antiquaries did a great deal of excavating, too, but few thought of doing it carefully and scientifically. One reads of men cutting into as many as seven barrows in a day! The method was simply to dig a hole down through the middle and haul up whatever was there. Often the investigators did not even make a written record of what they had found.

Fortunately there were a few antiquaries who were not like that. One, named Sir Richard Colt Hoare, excavated a great many barrows towards the end of the eighteenth and beginning of the nineteenth centuries, but he worked carefully, and made exact records of everything he saw and did.

Another, several years later, was General Pitt-Rivers. In 1880 he inherited a large estate at Cranborne Chase in southern England, and he spent the rest of his life excavating the very large number of sites in the neighbourhood where prehistoric men had lived or had been buried.



## *Why Must Archaeologists Dig?*

General Pitt-Rivers was a model of what an archaeologist should be, for he was one of the very first to realize that *everything* found was important, however trivial it might seem. He also realized something else that very few people had thought about at that time—that the *level* at which different things were found was also important, because objects found in the same layer were very likely to date from the same period.

The geologists (scientists who study the earth's crust and what it is made of) and archaeologists of the eighteenth and nineteenth century who excavated really seriously and scientifically gradually learnt amazing things—things that were to change men's ideas about the world they live in, and the history of humanity, completely.

## CHAPTER II

### *The Earliest Tool-Makers*

If you had been alive over a hundred years ago and you had asked some learned man how human beings first appeared on earth, he would have handed you a Bible and told you to read the first chapter of Genesis. There you would have read that God took six days to create the world and everything in it, and that he made man on the sixth day.

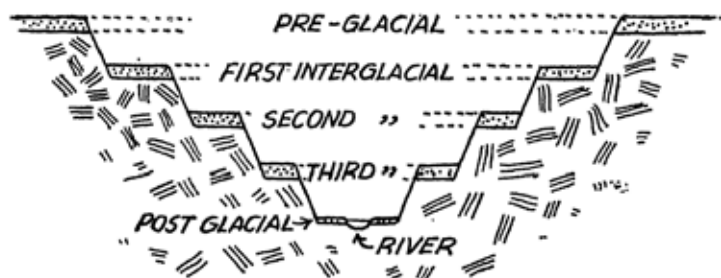
If you had then asked how long ago this happened you would probably have been told that an Archbishop Ussher, who lived in the seventeenth century, had made careful calculations and had decided that the date was 4004 B.C.

But from about 1780 onwards geologists had been learning far more about the earth and how it had been formed in the past, and was still being formed, than they had ever known before. They found that the surface of the earth is made up of a number of layers, or strata as they are called, of rock, gravel, clay, sand and other materials. By studying the way in which such layers are deposited to-day, by rivers, glaciers (which are rivers of ice), wind and rain, decaying vegetation, and so on, they found out how the earlier layers which are now deep underground were formed ages ago.

The geologists came to believe that the world must originally have been a mass of whirling gases. The gases gradually solidified into rocks, which were tossed about, bent and crumpled by violent upheavals. Gradually the world cooled, oceans and land masses formed, and simple forms of life appeared which gradually, as millions of years passed, developed into fishes, reptiles, birds and, at last, mammals.

## *The Earliest Tool-makers*

Vast ages passed, and then, probably about 600,000 years ago, the series of changes began which geologists call the Pleistocene period, or the Ice Age. Four separate times, at least, a great part of northern Europe, Asia and America, was covered with thick sheets of ice similar to those which now cover the arctic regions. In England the ice cap reached nearly to the Thames. Below the ice cap huge glaciers travelled slowly southwards, carving out valleys, cutting into rocks and hills, and spreading along their edges the crushed and broken rocks they carried with them. As the ice retreated after each glacial period and the glaciers melted, the summer flood water deposited gravel (churned-up stone) over wide areas, and the flowing rivers sometimes dug deep channels for themselves.



1. How the river-terraces were formed

Between the four glacial periods northern lands were sometimes much warmer than they are now. In these inter-glacial periods living things which had died out or retreated during the centuries of cold came north again. The flowing rivers dug out even deeper channels, so that the gravel which they had deposited in a previous warm period, perhaps thousands of years before, was left as terraces on the hill sides on either side of them.

In some layers or strata geologists found the fossilized bones of warmth-loving animals such as tigers and hippopotami which had wandered as far north as the land that is now Britain. In other strata they found the bones of cold-loving animals—reindeer and wild horses—which had roamed freely over what

## *The Earliest Tool-makers*

is now France and Spain during cold, bleak periods, and the bones, too, of such creatures as the mammoth and the woolly rhinoceros, which disappeared off the face of the earth thousands of years ago.

As the ice retreated for the last time, plants and trees gradually spread northwards again. Quite recently, during our own century, scientists have found a way of telling what plants were abundant at any particular period, and therefore what the temperature was like at that time.

Thousands of millions of invisible grains of pollen from plants and trees float in the air around us, settle on the surface of the earth, and sink to the bottom of lakes. In certain conditions these pollen grains survive and scientists can not only see them under a microscope but can recognize from what plant or tree they came. When they take a column of sediment from what was, say, the floor of a prehistoric lake in northern Europe, they find at the bottom, in the first sediment deposited by water from the melting glacier, the pollens of grasses and plants that can grow in very cold places. Then gradually the pollens change, showing that the climate slowly became warmer. The pollens of birch and pine appear, then those of hazel, lime, elm, oak and alder, until at the top there are the pollens of all the plants and trees that grow in the climate as it is now.

Geologists have found ways, too, of calculating how long these changes took. They have discovered, for instance, that when glaciers melt and the water flows into a lake, the spring floods bring down gravel which settles on the floor of the lake in distinct layers, the coarser gravel below and the finer on top. There is a fresh layer every spring and summer. A Swedish geologist was the first to count these layers. He knew that a certain lake in Sweden had been drained in 1796, so he was able to work back from that date and calculate exactly where the edge of the glacier which fed the lake had been year by year, and the dates of the changing forests which grew on the lake shores as the ice retreated farther and farther away.

In the eighteenth century, or even earlier, flint arrow-heads

## *The Earliest Tool-makers*

and things of that kind were sometimes found on, or near, the surface of the ground, but no one understood what they were. Some people said that they were the weapons of fairies, and called them elf-shot, or fairy arrows. Others said that they were somehow made in the sky during storms—that they were thunderbolts.

Gradually scientists realized that they were tools made by human beings, but even then they believed that flint tools, as well as the bronze and iron objects which were also found from time to time, had all been made not long before Roman times. In Britain the tools, like the barrows and the stone circles, were all regarded as the work of the 'Ancient Britons' as men called them—the Celts who were in Britain when the Romans conquered the country in A.D. 43.

But as time went on geologists found flint tools deep down in very ancient layers of the earth, among the bones of prehistoric creatures which had lived during the Pleistocene period. Yet, in spite of this, most scientists continued to believe that man had been created in 4004 B.C., and therefore could not possibly have existed in the days of the mammoth, hundreds of thousands of years before.

Some of the most convincing proofs that man *had* lived on earth for far more than six thousand years or so were found in caves. One such cave was in southern England. It was called Kent's Cavern, and was near Torquay. Although Kent's Cavern was near the coast, it was not a sea-cave, but was formed millions of years ago by rain water and vegetable acids seeping down through cracks in the limestone rocks and eating away the softer parts. Chambers and passages were formed underground which in time opened out on to the hillside.

During the great changes of the Pleistocene period the floor of the cave was slowly built up in layers. As the ice melted after each glacial period, floods spread diluvium (as gravel, sand and so on laid down in this way is called) many feet thick over the surface. Between one glacial period and another thick floors of stalagmite were formed by hard water dripping from the roof century after century, each drop leaving behind it a

## *The Earliest Tool-makers*

tiny fragment of carbonate of lime. It is said that it takes a thousand years for one inch of stalagmite to form. *Three* such floors were formed in Kent's Cavern, with wide layers of diluvium between them.

In 1825 a priest named Father J. MacEnery began to excavate part of Kent's Cavern. In the earth floor, above the top-most layer of stalagmite, he found, first, objects of iron and bronze, some dating from Roman times. Lower down he found small and beautifully made tools of flint and bone—knife-blades, borers, arrow-heads and even bone pins and needles. But *underneath* the thick, unbroken floor or stalagmite he found flint instruments of a different kind, together with the bones of such animals as rhinoceroses.

When Father MacEnery announced these facts, other scientists would not believe that the tools could have been left where they were by men living so long ago. A Dean Buckland, who was himself a geologist, said that pre-Roman men, Ancient Britons, must have made ovens in the stalagmite floors, and that through them the tools had reached the layers beneath!

A few years earlier Dean Buckland had himself found the skeleton of a young man in a cave at Paviland on the coast of Glamorgan. The body had been carefully buried and had been covered with a red powdered earth, and with the skeletons were the bones of extinct animals and some primitive stone tools. But Dean Buckland firmly believed that man had been created in 4004 B.C., so he would not accept this evidence and declared that the human bones were those of a lady who had lived about the time of the Roman conquest of Britain.

Archaeologists went on studying Kent's Cavern. They found the bones of cave bears, hyaenas, a sabre-toothed tiger, and other animals at various levels, and an enormous mammoth tooth, weighing seven pounds, which had probably been washed into the cave by one of the floods. And they continued to find stone tools made by men, or men-like creatures, and were able to prove, as MacEnery had said, that man had occupied Kent's Cavern at a time when mammoths and woolly rhinoceroses wandered about Devon.

## *The Earliest Tool-makers*

Other caves, some in Britain but more in France, Spain, and other parts of Europe, yielded up similar secrets. During the nineteenth century, too, a French lock-keeper named Boucher de Perthes became interested in the flint tools and the bones of prehistoric animals which he found in the gravels on the banks of the River Somme, and in quarries near Abbeville. He made a collection of such things, and was certain the tools were the same age as the bones.

For a long time people laughed at de Perthes and called him a crank. Then in 1859 two well-known English scientists went to France and saw de Perthes's collections of flints and the places where they had been discovered, and declared that they agreed with him. His discoveries and those of the cave-excavators proved beyond any shadow of doubt that man had lived upon earth, and had made tools of chipped flint, during the latter part of the Pleistocene period, or Ice Age. Geologists now calculate that the Pleistocene period probably started about six hundred thousand years ago and ended about ten thousand years ago.

As more and more tools, weapons and ornaments (archaeologists call such man-made things 'artifacts') were discovered, it became necessary to sort and arrange them in some sort of order. Some artifacts were of stone, others of metal, but even the stone ones were of many different kinds and were made in different ways. Gradually, by comparing the objects and by studying the levels at which they had been found, scholars decided that there had been three periods in prehistoric times—a stone age, a bronze age and an iron age. Later they divided the stone age, which they realized must have lasted for countless thousands of years, into two, the Palaeolithic or Old Stone Age, and the Neolithic, or New Stone Age. In the Neolithic age many of the flint or stone tools were carefully ground and polished.

In 1857, in a cave in a small ravine called Neanderthal in Prussia, a skull cap and some other bones were discovered. Some scientists were prepared to agree that these had belonged to one of man's earliest ancestors, or forerunners, and that he

## *The Earliest Tool-makers*

and his companions might have made some of the stone tools. But most people were not yet ready to accept such an idea, for the bones proved that the creature had possessed a very low forehead, heavy ridges over his eyes, and a protruding jaw with no chin. He must have carried his head drooping downwards and forwards, and his leg bones were formed in such a way that he could only have shuffled along. His brain had been quite large, but was bigger at the back and smaller in front than that of a modern man.

Remains of one of these man-like creatures had been found earlier, in 1848, on the north face of the rock of Gibraltar, but it was not until the skull cap was found at Neanderthal that scientists began to realize that the bones belonged to a type of man, so men of this type are known as 'Neanderthal men'.

The bones of over sixty 'Neanderthal men', including three nearly complete skeletons, have been found since, in Europe, western Asia, and Africa. We know now that he lived as the last glacial period was approaching, perhaps fifty thousand or more years ago, that he made use of fire, that he made vast numbers of rather large flint instruments, and that he and his family sheltered in caves. We know now, too, that although Neanderthal man had human characteristics he was not a true ancestor of modern man, and he and his kind disappeared off the face of the earth as completely as the mammoth has done.

In Italy an exciting discovery was made in 1950 in a cave in the Ligurian Alps—the actual footprints of a Neanderthal man on the clay which a river flowing through the cave countless ages ago had deposited on the floor. The gallery in which the footprints were found was sealed by stalagmite during the last glacial period, and had not been entered since. The footprints were about nine inches long and rather broad, and you can see casts of them in the Natural History Museum in London.

Not many years after scientists had at last agreed that tools found in deposits laid down during the *latter* part of the Pleistocene period were made by men, or men-like creatures, some of them began to find clumsy, roughly chipped flints in deposits which were laid down at the very *beginning* of the



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Pleistocene period, or even perhaps earlier, in the period which geologists call the Pliocene. There has been a great deal of argument about these 'eoliths', or 'dawn stones', as they are called, as some scientists were convinced that they had been shaped by nature and not by human beings. During the present century, however, a large number of eoliths have been found and studied, chiefly in East Anglia, and most archaeologists now agree that some of them, at any rate, were chipped out deliberately by creatures living between half a million and a million years ago.



2. An 'eolith'

In 1891 a Professor E. Dubois found in Java part of a skull, two teeth and a thigh-bone among gravels that were deposited very early in the Pleistocene period. The skull was very thick, much thicker than that of a modern human being, but the creature's brain, though smaller than a man's, was much larger than that of any modern ape. The thigh-bone showed that this ape-man walked erect, and a swelling over the part of the brain which governs our powers of speech shows that he could probably talk after a fashion. His forehead sloped sharply back, and he had protruding brows and projecting teeth which must have been set in massive jaws.

Did Java-man (or *Pithecanthropus erectus*, as he is called) and his relations make some of the earliest tools? Unfortunately none were found with him, but only the bones of animals that shared his world.

In 1907 a heavy jaw supporting human teeth was found eighty feet down in sand near Heidelberg in Germany—sand which was probably laid down during the first interglacial period more than five hundred thousand years ago.

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Scientists were naturally very anxious to find more remains of the creatures who may have been very early forerunners of man. So there was very great excitement when, in 1912, it was announced that several fragments of a human skull, part of a jawbone with some teeth still in place, relics of very early animals, and flint tools had been found at a spot called Pilt-down in Sussex, in gravel which geologists believed had been laid down very early in the Pleistocene period, or even before, late in the Pliocene. The brain-case was not much smaller than that of modern man, but the jaw was very ape-like, except for the fact that the teeth were worn down in a way never found in apes but found in human beings.

For over forty years 'Piltdown man' took his place among the earliest ancestors of humanity. But as time went on he became more and more of a puzzle and a mystery.

During those forty years more skeletons of Java-man were found, which proved that creatures like him had lived in Asia during early Pleistocene times. An even more exciting find was made in a cave in some limestone hills west of Peking, which were well-known because they were so rich in fossil bones. In 1927 a scientist who was hunting for such fossils found a solitary tooth which had belonged to an early type of man. During the next ten years the area was thoroughly excavated, and in one cave the remains of forty-five creatures something like Java-man were found. With them were the bones of animals such as deer, rhinoceros, water-buffalo and horses, and thousands of primitive stone tools which might not have been recognized as the work of men if they had not been found with the bones. The animal bones had been split along their length so that the marrow could be extracted, and charcoal and charred bones showed that these ape-like men had known how to use fire.

More remains of human or half-human creatures that were living on earth during the early part of the Pleistocene period, or even before, were found in South Africa, and in 1938 part of a human skull was found with some stone tools near Swanscombe in England.

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With every year that passed Piltdown man became more difficult to understand. He simply did not fit in with the other remains. Java-man, Peking-man and Neanderthal man all had small brains in comparison with modern man, and no forehead to speak of, like modern apes. But they had jaws and teeth with human characteristics. With Piltdown man it was just the other way about. Then, to increase the puzzle, a new survey showed that the gravel in which the remains had been found was not nearly so old as had been thought.

Within the last few years new ways have been discovered of finding out how old fossil bones, and some other prehistoric remains, are. A Frenchman discovered that buried bones absorb a substance called fluorine from the soil, so that the longer they have been buried the more fluorine they are likely to contain. A modern scientist realized that the amount of fluorine in a fossil bone would give some indication of its age. On the other hand, bones tend to lose nitrogen as time passes, so that the longer they have been buried the less nitrogen and the more fluorine they will contain.

When the skull and jawbone of Piltdown man were tested it was found that the skull did not contain nearly enough fluorine for the age it was supposed to be—and that the jaw contained far less than the skull. But the jawbone contained far more nitrogen than the cranium. This proved that the jaw did not belong to the skull and was not the same age.

After that all kinds of modern tests were carried out. The search for the truth about Piltdown man was as exciting and as surprising as a detective story.

One test was for the amount of radio-active carbon in the bones. Radio-active carbon reaches the earth from outer space and is absorbed by all living plants and animals. After they die the radio-activity decreases at a steady rate, so that it is reduced by half in 5,700 years. Very sensitive instruments can measure the amount of radio-active carbon remaining in anything which has ever lived, or been part of a living thing, and so can calculate almost exactly how long ago it died for many thousands of years back.

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These and other tests proved at last that Piltdown man was a complete fraud. The skull was ancient, but not more ancient than others from the late Pleistocene period, of which many have now been found in various places. The jaw was that of a modern ape, but someone had filed the teeth down to make them look human. The bones and teeth, the tools, and the bones of rhinoceroses and mammoths, other animals, had, where necessary, been stained and coloured to make them look as though they had lain for thousands of years in the Piltdown gravel.

The man who did all this placed the articles in gravel which he believed to be very ancient indeed, where men who were digging would be sure to find them. As we know, they *were* found, and have confused and deceived scientists and students all over the world ever since.

Now, thanks to modern science, we can dismiss Piltdown man and everything connected with him. Where his skull originally came from, no one knows. He can no longer be called the 'Oldest Englishman'. That title must, at present, be given to the remains found at Swanscombe (except that scientists believe they may have belonged to a young woman), which are, probably, about three hundred thousand years old.

## CHAPTER III

# *Great Artists in Prehistoric Times*

As scientists slowly learnt more about prehistoric man they realized that, although he made his tools of flint or stone for hundreds of thousands of years, the tools were not all of the same kind or made in the same way. An implement made by, say, a modern Englishman, would not be exactly like a similar implement made by, say, a Chinese, or by another Englishman who had lived five hundred years ago. In the same way, the implements made by different tribes or races of prehistoric men, even those who may have been living at about the same time, had characteristics of their own. Throughout the ages different races spread from east to west and from south to north, carrying their particular methods of making tools with them.

Collectors found it necessary to classify the different types of tools (or 'industries' as they are called). Usually they named an industry after the place in which tools of that particular kind were first found in any quantity, or where that particular industry was first recognized and studied.

The names by which most of the flint industries are known are French, because it was in France that some of the most important relics of early man were first found. Several of the names come from one fascinating valley about two hundred and fifty miles south-west of Paris. It is the valley through which a little river called the Vézère runs on its way to join the Dordogne, and it is a wonderful place in which to learn

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something about some of our earliest forerunners and ancestors on earth.

For a distance of about ten miles steep cliffs rise perpendicularly from the ground, or, in some places, from the river's edge, on each side of the Vézère valley. These cliffs are riddled with caves which penetrate deeply into the hillsides. But more important in some ways is the fact that hundreds of thousands of years ago glaciers and flowing water hollowed out great



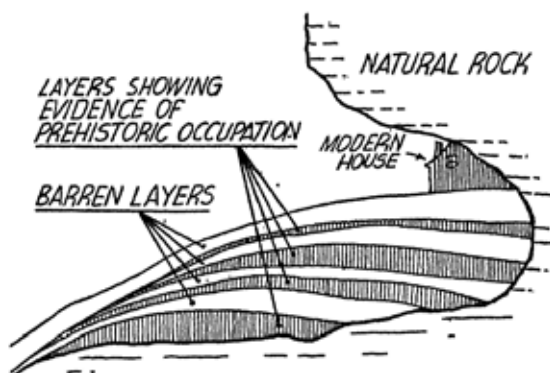
3. Houses built under rock shelters, Vézère valley

cavities or hollows at the base of the cliff walls, and these hollows have been used as shelters by human, or part-human, beings from very early times right up to the present day. If you visit a village called Les Eyzies in the Vézère valley, you may quite possibly find yourself staying in a building of which only the front and perhaps part of the side walls have actually been built. The back and roof are the same overarching rock that sheltered prehistoric men again and again throughout the ages. There are scores of such houses all the way along the valley.

The frosts and floods and changing conditions of the Pleistocene period and the ten thousand or so years that have passed

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since it ended, gradually built up the floors of the cavities so that the shelters became shallower and shallower, and some of the smaller ones were almost filled up. When archaeologists began to excavate them, as they did during the nineteenth century, they found layers of varying materials one above the other. Right down from the top to the bottom there were layers in which tools of various types, animal bones, and traces of fire showed that man had lived in the shelters at different periods.



4. Section of a rock shelter

Some excavators have left parts of the shelters unexcavated, so that if we go down into them from the present ground level we can look at a vertical section, a kind of wall, in which the many layers are still undisturbed, with flint artifacts and pieces of bone protruding from some of them. We can see, too, the bands of charcoal and ash here and there which show us where fires burned to warm prehistoric men for generations at a time.

In the museum at Les Eyzies there are large numbers of artifacts of all kinds that have been found in the shelters. The earliest are lumps of flint, roughly shaped, which were made by men who were living in the earlier part of the Pleistocene period. Then, from the layers that were laid down between the third and fourth glaciations, more than fifty thousand years ago, there are flint hand-axes, scrapers, and so on, beautifully





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made by Neanderthal man. From the upper layers came smaller, narrower, finer flint tools with sharpened edges—the first knives—and other tools such as harpoons and even needles made from bone and ivory.

Higher still, besides flint and bone tools, such things as pottery, spindle whorls, and a wide variety of picks and other instruments were found—tools needed by men of the New Stone Age, who were ceasing to be solely hunters and food gatherers and were beginning to herd animals and cultivate crops.



6. Mousterian tools made by Neanderthal man

Of course, all these varieties of tools were not found in every shelter. Some shelters may have been occupied during certain periods, perhaps for hundreds of years, and completely deserted for other long periods during which men were living in other caves.

The tools made by the shuffling and not very handsome creature we call Neanderthal man, are said to be 'Mousterian' in type. They are named after a shelter near a tiny village called Le Moustier in the Vézère valley, where not only tools were found, but the skeleton of a Neanderthal man. High above Les Eyzies a statue has been placed to represent our awkward-looking forerunner. There he stands, gazing out over the valley (much colder and bleaker in his time) in which creatures like him once lived and died.

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In 1868 a railway was constructed through the Vézère valley and in clearing trees, bushes and earth from the base of the cliff near Les Eyzies, the workmen found chipped flints and animal bones. An archaeologist excavated the rock shelter which the workmen had exposed, and found, buried at the back of it, the skeletons of five people.

This discovery was a very important one indeed. These were the first prehistoric skeletons to be recognized by scientists as being those of our own true ancestors—*real* men and women who had occupied the caves as the ice was retreating for the last time. The skeleton which Dean Buckland found at Paviland in 1822 was actually the very first which had been excavated, and some others had been discovered at a place called Aurignac in southern France in 1852—but no one had recognized them for what they really were.

The shelter near Les Eyzies in which the five skeletons were found was called Cro-Magnon, so prehistoric men of this type are called Cro-Magnon men.

A hotel now stands close to the spot where Cro-Magnon man was found, and the rock shelter in which our remote ancestors lived and buried their dead twenty thousand years or so ago now shelters the cars of visitors who come to see some of the wonderful things that the Vézère valley has to show them.

The Cro-Magnon discovery was important for another reason. These five people had been carefully and deliberately buried, and their bodies had been decorated with necklaces and other ornaments made from pierced seashells and animals' teeth. This discovery, and others which followed during the next few years, taught archaeologists that the men who lived



7. Statue of a Neanderthal man, Les Eyzies

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all that long time ago were not such complete savages as one might have thought.

Already, four years before the skeletons were found at Les Eyzies, a number of beautifully made tools had been found in a rock shelter called La Madeleine which is in a cliff a few miles down the river from Les Eyzies.

One of the most amazing things found at La Madeleine was a piece of mammoth bone on which was engraved a drawing of a mammoth. Not only did this seem to prove that prehistoric men had lived in Europe when the mammoth did, but also (though few people would believe it at the time) that the men living all that long time ago were artists.

Tools of the same type as those found at La Madeleine are called Magdalenian.

Actually a bone on which a drawing of two hinds was scratched had been found even earlier—in 1840—at Chauffaud, but no one had taken much notice of it.

As time passed more and more pieces of bone and ivory and stone were found on which outline drawings of animals' heads had been scratched. Sometimes a piece of bone or ivory had itself been carved into the shape of an animal.

Skeletons found in other caves showed that Cro-Magnon man (who was six foot tall with a broad face and well-developed chin) was not the only type of true man living in the world towards the end of the Pleistocene period. Already men of several different races had developed. Some were short, some tall; some had round heads and some had long; and some had negroid characteristics.

As scientists learnt more and more about the human and half-human creatures who had lived on earth and made stone tools during the six hundred thousand years or so of the Pleistocene period, they divided the Paleolithic, or Old Stone Age, into sections. They began to call the period during which such creatures as Heidelberg, Java and Peking men had lived, the Lower Paleolithic; the period when Neanderthal man had lived, the Middle Paleolithic; and the period when our own true ancestors lived (though they were still hunters and

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food gatherers and used stone tools), the Upper Paleolithic.

The Upper Paleolithic has been sub-divided according to the types of stone tools which different tribes or races made—that is, according to their 'industries'. The three main subdivisions are called the Aurignacian, the Solutrean, and one of which you have already heard, the Magdalenian, and these three have each been sub-divided yet again.

It is among the tools of the Aurignacian period that we find the first drawings and carvings.

As we have seen, many of the names by which the stone-age industries are known are French—but it was in a cave in northern Spain, at a place called Altamira, near Santander, that the most amazing and, at first, almost unbelievable discovery about the men who lived in Europe towards the end of the Ice Age was first made.

A gentleman named Marcelino de Sautuola had become keenly interested in the artifacts, particularly the engraved bones, that were being found in France and other places. So he began to dig in a cavern which had been accidentally discovered near his house when someone tried to dig out a dog which had disappeared down a fox hole.

One day in 1879 de Sautuola took his little girl, Maria, who was five years old, with him to the cave, and while he worked she wandered and peered about on her own. Suddenly her father heard her cry out that she could see bulls. At first he took no notice—but Maria insisted, and at last he gazed up, as she was doing, at the rocky vault above their heads. To his amazement he saw, looming out of the shadows, a herd, not of bulls, but of bison, painted on the roof in red and black. Maria had observed something that no other human eye had seen for countless thousands of years.

Although Marcelino de Sautuola was himself certain that the paintings had been done by men living in the Old Stone Age, very few people would believe him. Some people even accused him of having hired a painter from Madrid to do the paintings. But in time other pictures were discovered in other places.

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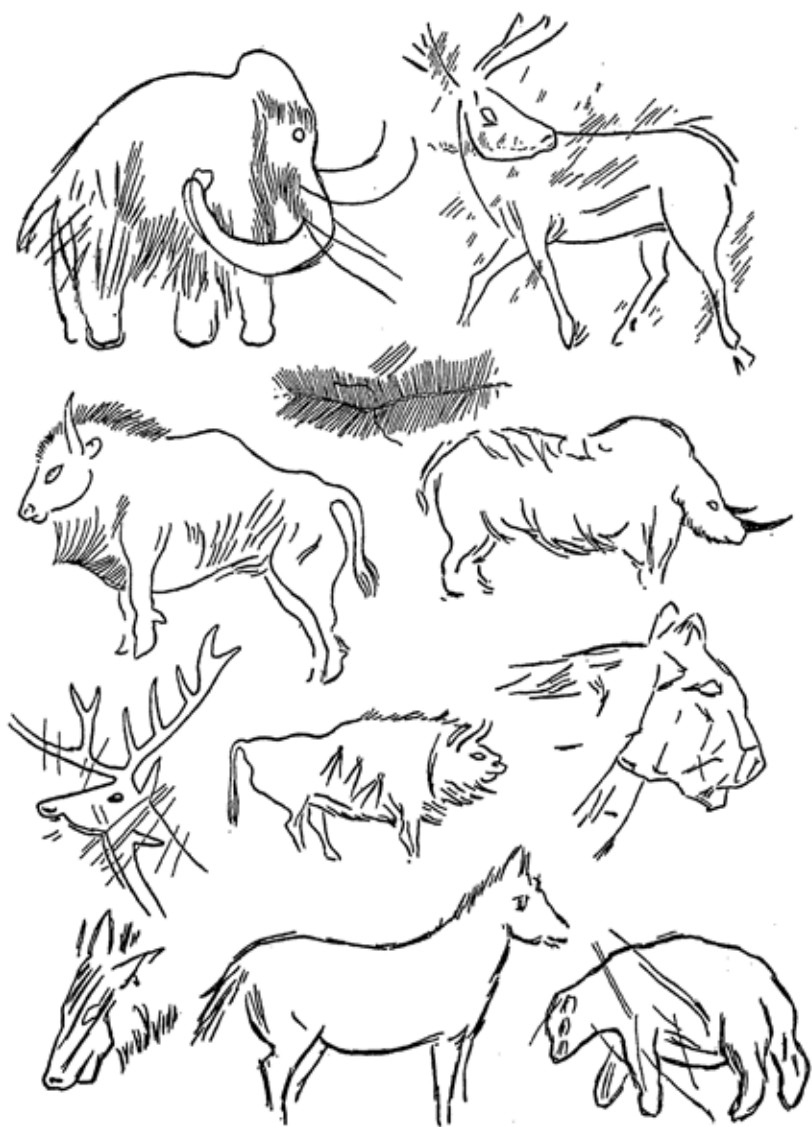
In 1895, at a place called La Mouthe, about two miles from Les Eyzies, a farmer who was clearing out a rock shelter so that he could use it for some purpose, uncovered the entrance to a narrow cave passage running into the hill, and some boys took candles and crept in to explore. They came back, wide eyed, to say that one of them had seen on the wall of the passage a drawing of a bison. When scholars came to examine the cave thoroughly, they found he was right. There were many drawings on the walls of horses, oxen, bison, stags, reindeer, rhinoceroses and mammoths—yet the entrance to the cave had been completely blocked by deposits which themselves dated from stone-age times.

After that archaeologists and cave-explorers began to look carefully at the walls and roofs of caves, besides digging into the ground. As time passed they found a surprising number of caves in which drawings of all kinds of prehistoric animals had been scratched in outline, or painted in colour.

Carvings, too, were discovered, and again the first to come to light were in a rock-shelter, called Cap Blanc, not far from Les Eyzies. The carvings are in high relief on the back wall of the shelter, and were discovered when it was excavated in 1911. Like the drawings, the carvings represent animals—a bison, a reindeer, an ox and several horses. One of the horses is nearly seven feet long.

One day in 1912, at a place called Tuc d'Audoubert, three schoolboy brothers floated up a subterranean river which they had already partly explored with their father. They came to a big cave of which the walls were covered with drawings of bison, reindeer and horses. Then they went on foot along a narrow tunnel into a vast cave full of shining stalactites (which hang down from the roof) and stalagmites (which grow up from the floor), and scrambled about thirty feet up a kind of pillar or chimney into another passage and then into a small chamber. Flashing a torch round the walls, the boys noticed that one part was covered with stalagmite which looked transparent, as though there might be space behind it.

With their axes the boys hacked away the stalagmite and



8. Cave drawings

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found a tiny tunnel, so small that they could only wriggle and squirm along it flat on their stomachs.

Beyond were many more passages and chambers—and suddenly in one of them the boys found themselves face to face with two wonderful statues in clay of a pair of bison.

The next day the boys persuaded their father to make the difficult journey to the Cave of the Bison, but the 'cat's hole' through which they had to crawl was so narrow that by the time he got through all his clothes had been ripped off him. Very few people have been able to visit the cave, but those who have have found other traces of prehistoric man besides the carved bison—the footprints made in the clay floor by men who lived, perhaps, fifteen thousand or so years ago. Some of the footprints were coated over with stalagmite.

Two years after they had found the bison, the same boys, after descending a kind of natural well in the hillside near by, found another cave covered with paintings of prehistoric animals. This cave is now called *Trois Frères*—the cave of the Three Brothers.

Some cave discoveries have been made after even more uncomfortable and dangerous journeys underground. In 1922 a well-known cave explorer named Norbert Casteret followed a subterranean river for nearly two miles into a hill in southern France, and then swam under water in the dark along a water-filled passage, with his candle wrapped in a rubber bathing cap. The following year he returned with a friend, and after their icy swim they found, in the cave beyond, clay statues of lions and a bear which had lost its head. Before archaeologists could examine these, some of the oldest statues in the world, Casteret and his friends, with picks and shovels, managed to lower the level of the water, so that they could wade along the tunnel.

After these, and many other discoveries in southern France and in Spain, even those men who had doubted had to agree at last that these works of art had been made by the men who had lived in the rock shelters between ten and thirty thousand years ago. Extraordinary as it might seem, people who knew



9. Paintings and drawings from the Lascaux cave



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nothing about farming, who could not spin, weave, make pottery, build houses, read or write, were yet very fine artists indeed.

The most wonderful painted cave to be discovered so far was found by accident during the last war—and that, too, was in the Vézère valley, and was explored, first of all, by school-boys.

On the hill-top about a mile above the little town of Montignac, at a spot where a tree had been uprooted in a winter storm, farmers had found a hole in the ground, and had filled it up with branches so that cattle should not break their limbs in it. A few years later, on 12th September 1940, four boys climbed up the hill with Robot, a dog belonging to one of them. After a time Robot disappeared down the hole, and the eldest of the boys climbed carefully down to look for him. He found himself in a kind of cave-passage.

Needless to say, the mysterious place had to be explored. The boys provided themselves with candles and ropes, and all four descended the hole. They scrambled along the passage, half filled with fallen earth, until they reached a large cavern. They raised their candles—and found themselves gazing at the most marvellous gallery of prehistoric pictures the eyes of any modern man had ever seen. In this, and in two other caves opening out in two directions, the walls were covered with enormous bulls—one eighteen foot long—horses, deer, cows, goats, buffalo and bison. Some were scratched on the wall or roof, some were painted, and all were amazingly lifelike and active.

The boys raced to Montignac, and with some difficulty persuaded their schoolmaster to climb the long hill and scramble through the hole to see what they had seen. He was as impressed as they had been, and immediately got in touch with an archaeologist, the Abbé Breuil, who knew more about stone-age art than anyone else alive.

It was not until the war was over that the rest of the world heard much about the Lascaux cave (as it is called), but now any of us can visit it and see its marvels—and those of the

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many other caves—for ourselves. At Lascaux it is quite likely that we shall be shown over by one of the boys (now grown men, of course) who discovered the caves, for two of them now act as guides.

It is an eerie experience to stand in any of these caves and look at drawings and paintings done so many thousands of years ago. The drawings are often covered with a thin film of stalagmite which has formed throughout the ages. Right in front of a drawing in one cave a stalactite hanging from a low shelf of rock, and a stalagmite rising from the floor below it, have joined to form a column. There are countless drawings of reindeer, wild horses and bears, and pictures by men who actually saw and hunted them of such extinct creatures as mammoths, cave bears and woolly rhinoceroses, which scientists had before been able to imagine only through finding their bones.

There are several puzzling mysteries about stone-age art, many questions that will probably never be answered. The pictures were not drawn or painted on the walls of the cave-shelters in which the people lived. They were not decorations. They are always found in caverns deep underground, or the first drawings are several hundred feet back from the entrance in passage-caves, in places where no glimmer of daylight can ever penetrate. They must have been done by some kind of artificial light—probably a wick of moss floating in a stone saucer of fat.

The artists did not choose the smoothest wall surfaces, or even those within easy reach. Often the drawings are in the most awkward places, very difficult to get at, where the artist must have been huddled in a most uncomfortable position, or they are high up on roofs and walls. Often one drawing is placed over, or partly over, another which had probably been drawn centuries earlier. Archaeologists believe that the painted caves were in use, possibly, for thousands of years.

But why were these drawings, paintings and carvings of animals made at all? We can only guess that they were connected with some magic ceremony, some religious belief. These

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people were hunters, and perhaps they believed that by making pictures of animals they somehow made sure that there would be plenty of real animals to hunt, and by showing them pierced with arrows or spears, as they often did, they would make sure of success in their hunting. Perhaps the artists, the men who were skilful enough to make the drawings, were the first wizards or priests.

Another puzzle is why, when they could draw animals so wonderfully, they so seldom drew men. When human beings do appear, they are drawn, as a rule, with straight, stiff lines, and are not so lifelike as the animals. There are a very few drawings in which a man is shown wearing a mask and the horns of an animal on his head, and apparently performing some dance or ceremony. Archaeologists believe these drawings represent the wizard or magician who performed mystic rites in the cave-temples—for that is what they think these places must have been. There is one famous 'wizard' on the wall of the cave discovered by the three brothers.

But perhaps the greatest mystery of all is what happened to these first (so far as we know) artists. They disappeared completely from northern and western Europe. The races of men who followed them, after the Pleistocene period ended, had skills of other kinds, but they did not draw or paint pictures on the walls of caves. The painted caves were forgotten and, as the centuries passed, even the entrances were sealed up by nature.

Art, which flourished for a time more than ten thousand years ago, seems to have died, and not to have been recreated again until many thousands of years later.

## CHAPTER IV

# *Stone-Age Hunters, Fishermen and Farmers*

As the last glacial period ended, Europe very slowly became warmer. Plants and trees began to grow on land which had been bare, grass-covered steppe-land. Animals which like a cold climate, such as reindeer, followed the ice northwards. The races of men who had drawn, painted and carved in the caves of France and Spain followed them, or died out, and their places were taken by fresh races coming probably from the south and east.



10. Painted pebbles of  
the Azilian period

Relics of some of these later people were first found and recognized in 1887 in the upper layers of some caves at Mas d'Azil, about forty miles south-west of Toulouse, so the culture is called Azilian. Flat harpoons made of stags' horn were found, the bones of red deer and wild boar, and some strange pebbles on which peculiar patterns had been painted in red ochre. What the pebbles were for, and what the patterns meant, no one knows. Perhaps they are examples of the earliest

## *Stone-Age Hunters, Fishermen and Farmers*

form of writing, or perhaps they had magic qualities, and were connected with religious beliefs.

These later stone-age men made much smaller flint tools than those which earlier men had made. Wood was now plentiful, and the flint tools were probably attached to wooden handles which have, of course, rotted away.

A race of men whose work was first studied in a cave at Fère-en-Tardenois, so that the industry is called Tardenoisian, cut very tiny flint tools indeed, some only half an inch long, in exact geometrical shapes. These pygmy flints, or microliths as they are called, may have been attached to small wooden shafts in order to make darts, arrows and spears with which their



11. Mesolithic pygmy flints and barbed bone tools

owners hunted small animals and birds. Relics of the Tardenoisians are found in sandy places, or sometimes on grassy uplands, where perhaps they camped in summer.

Another race of people, whom we call the Maglemosians, after Maglemose (meaning great bog) in Denmark, made large flint axe heads and picks, with which they could fell trees.

These and other races or tribes of people were spread over the world during the period which, in northern Europe, lasted some thousands of years, between the disappearance of the cave men at the end of the Ice Age and the arrival of the people of the Neolithic or New Stone Age who knew how to cultivate the ground and herd animals. In Britain we now call this 'in-between' period the Mesolithic, or Middle Stone Age.

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In the Mesolithic period it was no longer so cold, even in northern Europe, that human beings found it necessary always to shelter in caves. They liked to settle by sea beaches or by rivers and lakes. Although they were still hunters, they were also great fishermen.

In the middle of the nineteenth century archaeologists excavated and examined for the first time some great heaps of oyster, cockle and other shells, and the bones of fish, ducks, geese, sea-gulls, stags, bears and beavers, which were to be found near the sea-beaches of Denmark. Some of these heaps of bones and shells were as much as a hundred yards long by fifty yards wide. Among the shells and bones were stone implements and charcoal.

One of the archaeologists wrote at the time: 'One might almost think these heaps were the places where the people of the neighbourhood, in those far-off times, took their meals.'

We know now that this is exactly what they were, and that the people who made the 'kitchen middens' as they are called (a midden is a rubbish dump) lived at a time when Denmark was covered with fir and pine trees, and when oak trees were just beginning to take their place.

During the Mesolithic period men wandered into Britain over fen-like land which is now covered by the North Sea, and their settlements are found as far north as Scotland. A dug-out canoe which some of them left behind them was found under the clay laid down by the River Tay at Perth. It is the oldest boat ever found in western Europe. The men who made it used fire to help them in hollowing out a tree-trunk.

Quite recently a Mesolithic settlement was excavated at Star Carr near Scarborough, Yorkshire. Here, as the ice melted at the end of the last glacial period, a lake formed which later drained away or dried up. On marshy land beside this pre-historic lake men made their camp. A kind of platform which they made with birch branches weighted down with stones or lumps of clay has been found, with traces of the birch-bark flooring with which it was covered and some charred wood and remains of domestic fires. There were no traces of huts or

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other buildings. Perhaps the people sheltered in tents made of animal skins.

The excavators found the bones of animals such as red deer, elk and wild ox, and tools such as flint awls, hammer stones, knives, scrapers, and instruments for cutting up antlers and bones. There were many tiny regular bladelets of flint which were probably used as barbs and the tips of arrows, and there were also implements made from the bones of oxen and barbed spear heads made from stag antlers. Perhaps the most interesting find of all was the middle portion of a birch-wood paddle, for it is the oldest implement for propelling a boat that has ever been found.

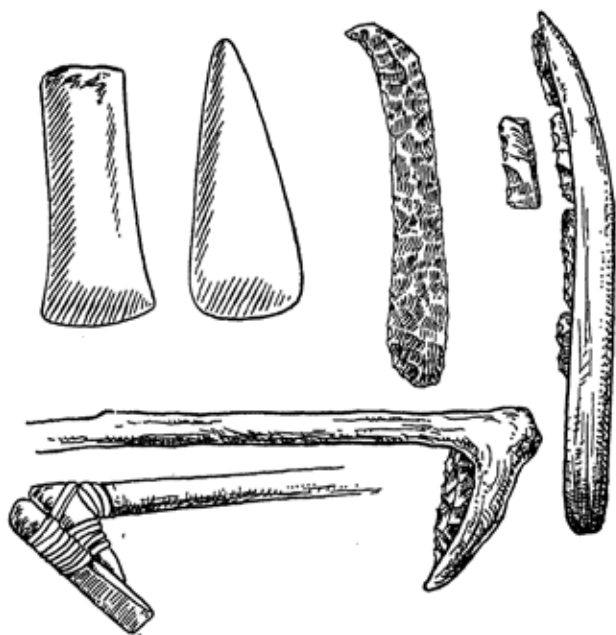
There were ornamental things as well as tools—beads, pieces of amber, perforated shells. Some of the strangest finds, perhaps, were the front parts of the skulls of stags which had been smoothed inside. Holes had been made behind the horns, perhaps so that a leather thong could be attached with which to bind them on a man's head, and the heavy tines of the antlers had been cut and trimmed to make them lighter.

A century ago archaeologists could only have guessed at the age of such a settlement as the one excavated at Star Carr, and what the countryside looked like when men lived there. Now, by analysing the pollens preserved in the peat which was once the floor of the prehistoric lake, and by comparing it with the level at which the settlement was found, they know that Star Carr was inhabited at a time when birch and pine trees were growing in the district but before the climate had become warm enough for hazels to grow. In northern Europe this period was between seven and eight thousand years ago.

The hunter-fisher people who lived at Star Carr did some things, such as paddling themselves about in canoes, which men of the Old Stone Age did not do, and they seem to have tamed one wild animal—the dog. But they were still hunters and food-gatherers. They knew nothing about farming, and some thousands of years were to pass before people reached Britain who knew how to till the soil, grow crops and herd animals.

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Farming began, probably, in one of the warm, fertile countries at the eastern end of the Mediterranean. Some of the first settlements to be excavated were in Egypt, where flint hoes for breaking up the ground were found, and flint sickles for cutting the corn. The first sickles were made by setting a row of sharp flints in a groove along the edge of a tapering bone or piece of wood. The thick end served as a handle. Such



12. Neolithic stone tools, sickles and hoes

flint sickles, if they were used for any length of time, have a polish along the edges caused by friction against grass stems. Later on, men learnt to set their flints into a curved piece of wood or bone.

The Egyptian farmers stored their barley and wheat grains in pits dug in the ground and lined with basket-work, and they ground them into flour by placing them on a long flattish stone higher at one end than the other (which we call a saddle-quern)



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and rubbing another sausage-shaped stone over them. The pits and the querns were found—also the bones of cattle, sheep and pigs which were apparently domesticated.



13. A woman grinding corn on a saddle stone

Many other flint tools were found, such as knife blades, arrow heads, points for spears, and 'celts', which are axe or adze heads which had been ground and polished by friction with sand to make them smooth. These polished flints are typical of Neolithic, or New Stone Age, times.

The people who lived in the villages not only knew how to make baskets and build themselves huts, but they had also learned how to make pottery and how to spin fibres into thread and weave the thread into fabric.

For a long time many historians and archaeologists were convinced that farming started in Egypt and slowly spread from there over the rest of the world. But during the present century excavations have been carried out in countries such as Syria, Iraq and Palestine, and archaeologists now know that men were growing grain and herding animals in some of these other places at least as early as they were in Egypt, or even earlier. For instance, in 1936-7, archaeologists excavating a tell, or mound, in Turkey, went down through sixteen layers of occupation (the remains of sixteen towns one above the other) and then, below that, found the remains of the Neolithic village which early farmers had made when they first settled on the site, perhaps five thousand years or more before the birth of Christ.

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We may never know *exactly* where on the earth's surface a little plot of ground was broken up by a human being for the very first time, so that grain could be planted and the crop later reaped and stored for food. But it was almost certainly somewhere in the Middle East, and from there primitive farmers spread slowly into other areas, where they had to adapt themselves to other conditions. Their settlements have been found by rivers and lakes, and on open downlands in many parts of Europe.

In 1853-4 some very surprising and unexpected discoveries were made. During a very dry winter the level of Lake Zürich, in Switzerland, dropped to an unusually low level. The people who lived in a village called Ober Meilen decided to take advantage of the lowness of the water to reclaim some of the land which was usually underneath the lake. They built walls round the land they wanted, and then began to fill in the areas with mud which they dug from the uncovered lake-bed nearby. But as they dug they came upon the heads of piles, or posts, and between them they found stone and bone tools, pieces of stag's antlers, and fragments of pottery.

The Antiquarian Society of Zürich was told, and its President, Dr. Keller, investigated and was able to prove that the remains were those of a dwelling, or village, which had been built out over the water. Investigators who searched other lakes soon found traces of many similar villages in more than two hundred lakes in different parts of Switzerland. There were forty-six in one lake alone. Most of them, though not all, were Neolithic in date. As time went on many more lake villages were found in other parts of Europe.

Among the remains of some of these Neolithic lake dwellings were scraps of the earliest cloth that has ever been found in western Europe. It was of linen, and was made about 2000 B.C.

It was probably some time between 5000 and 6000 B.C. that the first crops were grown and the first animals domesticated in the Middle East, but it was not until about 2500 B.C. that farming people reached Britain, bringing a few cows, sheep and pigs with them, and a supply of grain.

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Then for the first time little plots of land on the chalk downlands were broken up by means of flint hoes or digging sticks, and tiny crops were reaped with flint sickles. By that time the sea had flowed over the land which had previously joined Britain to the Continent, and Britain had become an island.

These Neolithic farmers made the first of the earth-works which often stand out so clearly on the hill-tops of northern Europe. In southern England there are several 'causewayed camps' as they are called. One of the most famous, and the one that has been most closely studied, is on the top of Windmill Hill, near Avebury in Wiltshire. Like the others, it consists of several rings of high earthen banks one inside another, with wide ditches between them and a space in the centre. But the ditches do not continue all the way round. They are in short lengths, divided from each other by undug causeways, or entrances. Sometimes there was evidently a stockade on top of the banks, and there must have been gates across the many entrances.

There are no traces of huts in the causewayed camps (archaeologists can find the holes where posts have been even when wood has disappeared) and the people may have lived in tents. Quite possibly they did not live in the camps permanently at all, but used them as safe places into which to drive their cattle and in which to camp occasionally. Pottery and the charred bones of animals were found in the ditches.

A few isolated settlements have been found and studied where Neolithic people seem to have lived in round or rectangular huts, and in Cumberland a group of them lived in a waterside settlement at Ehenside Tarn.

British archaeologists have had the good luck to find a late Neolithic village which had been buried under drifting sand, and so preserved. It is at Skara Brae in the Orkneys, and the hardy people who lived in this bleak spot nearly four thousand years ago did not cultivate the ground at all. But they herded cattle and sheep and lived, besides, on fish, sea-birds and whatever else they could find. The village consisted of a cluster

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of half a dozen one-room cottages, about twenty feet by thirteen, built of the local flagstone, with narrow alleys between them which were roofed over.

In each cottage there was a hearth in the centre and, rather surprisingly, built-in furniture which was also made up of stone slabs. On either side of the hearth there was a box-shaped bed, the one on the right as one came in always larger than the other. At one end of the room stood a kind of two-tier dresser of stone, and low openings in the side walls opened into one or two small cells, or storerooms. There were small recesses, or shelves, let into the stone wall near the beds.



14. Inside a Neolithic house at Skara Brae

One of the most exciting things archaeologists have discovered about Neolithic men is that they were *miners*. They did not dig for metals—they did not even know that such things existed—but they had discovered that the best flints for making the strong flint tools they needed for chopping down trees, making stockades and that kind of thing, were often to be found deep down underground.

Flint mines have been discovered in several places in northern Europe. In Britain there were a number on the South Downs, and one of the most famous was found at Grimes Graves near Brandon in Norfolk. The miners dug out pits which were sometimes fifty feet deep, with underground galleries connecting them. Their only tools were picks made from deer antlers and shovels made from the shoulder-blades

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of animals. Excavators found these tools, and also little hollowed-out cups of chalk which, filled with fat in which a wick floated, supplied the eerie light by which the miners worked. Black patches which had been made by the smoke from the lamps were still visible on the chalk roofs and walls.

In one mine a little statue or figurine was found on a ledge. It represented the 'Mother Goddess' who the miners hoped would help them in their search for flints. In front of her were a number of antler picks which had evidently been laid there as gifts.

Once the flints had been prised out, they were drawn to the surface, probably in baskets, and shaped roughly into tools on the spot. Work-places have been found, where piles of waste flint were left lying on the ground.

Some of the most striking monuments left by the farming people of the Neolithic or New Stone Age are the 'long barrows'. We can see them in many parts of Europe, on the chalk downs in the south of England, in Yorkshire and Lincolnshire, and in Scotland, Wales and Ireland. They are long, grass-covered burial mounds, higher at one end than the other, and sometimes very big indeed. One in Wiltshire is nearly four hundred feet long and seventy-five feet wide at the higher end.

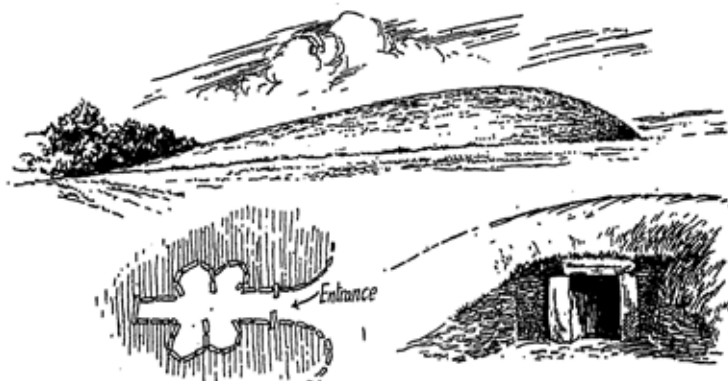
Sometimes the barrows are simply mounds of earth piled up over a large number of bodies; sometimes, inside the earthen mound, there are passages and chambers made of great stones standing on edge and supporting other large, flat stones which form the roof. There is then, usually, an entrance at one end, which was sealed up when the burial mound was used for the last time.

One small but very interesting long barrow in England which we can enter and see for ourselves is called 'Hetty Pegler's Tump' and is near Uley in Gloucestershire.

Sometimes the earth mound has worn away or has been removed at some time, and a few of the stones forming the burial chamber or part of the passage have been left exposed. Such megalithic chambers (megalith simply means 'great



15. Antler pick, shoulder-blade shovel, and chalk cup-lamp



16. A long barrow, its entrance, and plan of burial chambers

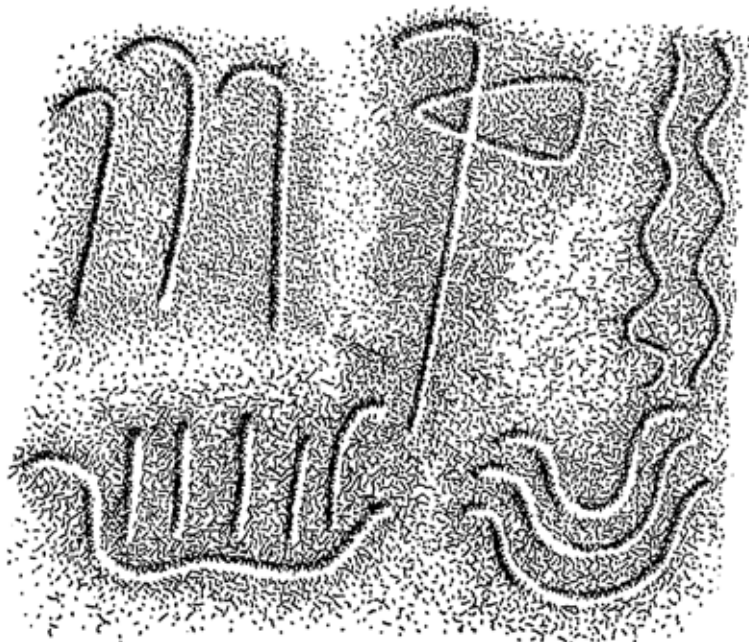


17. A dolmen

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stone') are called dolmens, and they have often been given local names too. There is one in Kent called Kits Coty House, and another in Wiltshire called Waylands Smithy.

The word 'dolmen' comes from two Breton words—'dol' meaning table, and 'men' meaning stone. Brittany is a country that everyone who is interested in megalithic monuments



18. Symbols carved on stones in prehistoric burial chambers

should visit, for there are hundreds of long barrows, dolmens and 'menhirs' to be seen, especially around the village of Carnac in southern Brittany.

'Menhir' is another Breton word, meaning long stone, and is used to describe the 'standing stones' which are to be found in many countries, sometimes solitary, and sometimes arranged in groups or circles.

Many of the Breton long barrows can be entered. Some-

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times one has to crouch down and creep along the entrance passage almost on hands and knees; in other cases the passage is high and wide enough for a man to walk along it almost upright.

In some of the burial chambers the surfaces of some of the supporting stones and the under sides of the roof-stone have strange patterns carved on them. The patterns may be made up of upright lines, each one curving over at the top like a crook or walking-stick to touch the line behind; or there may be wavy lines, spirals, or shapes resembling axes, swastikas, or shields, or circles with lines radiating out from the centre like a bicycle wheel, which may, perhaps, have represented the sun.



## CHAPTER V

# *Round Barrows and Stone Circles*

Archaeology has taught us that about 3500 B.C., a thousand years or more before even the first stone-age farmers had penetrated as far as northern Europe, men living in the Middle East discovered metals, and started to make their tools, first of copper, and later of bronze, which is a mixture of copper and tin.

The search for copper and tin led to a great deal of exploration and trade. Great civilizations, which we shall be reading more about presently, developed in the metal-using countries.



19. A round barrow

Very slowly men who knew about bronze spread over the world. Some of them reached northern Europe about 2000 B.C. The earliest to reach Britain do not appear to have been metal workers themselves. They possessed a very few bronze weapons, tools and ornaments, which they must have obtained from other countries by trade. We call these people Beaker Folk, because of a particular kind of pot which they used, which is often found buried with their dead.

## *Round Barrows and Stone Circles*

Beaker Folk did not make long barrows, as their fore-runners had done, but buried their dead singly, huddled up with their knees close to their chins. They piled over them a round mound, like a bowl turned upside down. Hundreds of round barrows are to be seen on the hills and downs of Europe, wherever Beaker Folk lived, or the Bronze Age people who followed them. When Beaker Folk barrows are excavated, flint tools and, sometimes, one or two bronze objects are found with the skeleton, and one of the characteristic beaker-shaped pots. In a barrow excavated in Wiltshire there were two flint arrow heads, a rectangular stone wrist-guard to be strapped round the wrist to protect it from the recoil of the bowstring, a bronze dagger, and a beaker.



20. Beaker and wrist guard from a round barrow

But the most interesting things the Beaker Folk left behind them, and the most mysterious, are the stone circles, particularly two in England which are the most remarkable in all Europe—Stonehenge and Avebury.

Stonehenge is on Salisbury Plain, and is the best-known, but Avebury, near Marlborough in Wiltshire, is the largest megalithic circle known, and is in many ways even more interesting. When it was complete Avebury consisted of two double circles of immense, rough, unworked stones, each weighing many tons. These two circles stood side by side within another enormous circle of single stones, outside which was a wide ditch fifty feet deep, with a great bank on its outer

## *Round Barrows and Stone Circles*

edge. The ditches and bank enclose an area of twenty-eight and a half acres.

In the centre of one of the smaller circles stood three even larger stones, and in the centre of the other, one single stone.

Running away to the south, from an entrance through a break in the bank and ditch, was an avenue made up of alternate tall and short stones. The avenue led to another double ring of stones on a hill about a mile away. This smaller ring used to be known as the Sanctuary.

The Sanctuary was completely destroyed in 1724 by a farmer, but the site was thoroughly excavated in 1930. When ground has been disturbed for any reason, such as for the purpose of making a hole for a post, or digging a ditch, the ground never returns to its original condition. By careful excavation, therefore, archaeologists can find out where posts have stood, even if they have been removed, or have rotted away, and the hole has afterwards been filled in. In the Sanctuary they found the holes in which the megaliths had stood, but they also discovered that there had been six circles, one within the other, which had been made up of wooden posts.

In one of the stone-holes, the body of a man, with one of the typical beakers of the Beaker Folk, had been buried. His grave had actually been filled in at the same time as the hole which had been made to take the stone, which proved that he was buried at the same time that the stone was erected.

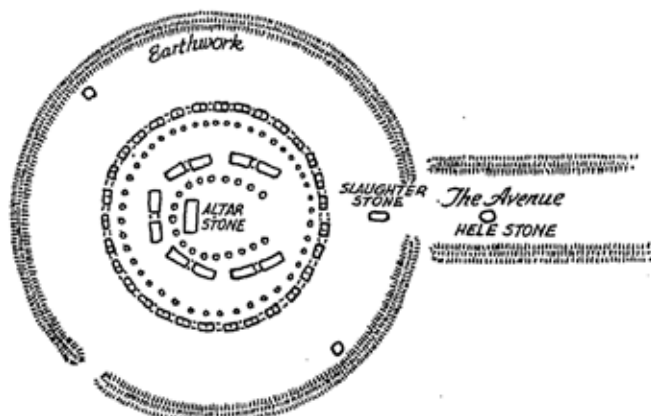
The Sanctuary was not the only part of the great Avebury monument that was destroyed. During the Middle Ages a very large number of the stones were thrown down and buried underground. This kind of thing was sometimes done by order of the Church, because the stones were connected with heathen practices. Even in Christian times there were people who worshipped great stones, or believed that they had magic qualities.

Unfortunately, during the seventeenth century men discovered that if fires were lighted close to the stones to heat them, and cold water was then thrown over them, they would

## Round Barrows and Stone Circles

crack and could be broken up. Scores of stones from the circle and from the avenue were destroyed in this way, and the stone was used for building cottages—for now there is a village right in the middle of the biggest megalithic monument in Europe, and a road from Swindon to Marlborough runs right across it.

Modern excavators have found and re-erected the buried stones, and have traced the holes of those which have been destroyed. Close to four of the stones in the avenue, burials of Beaker Folk were found.



21. Plan of Stonehenge

Stonehenge is only about one-thirteenth the size of Avebury, but it is more elaborate. When it was complete it consisted of a circular earthen mound, about three hundred feet across. Inside this was a circle of thirty huge upright stones connected by flat stones, or imposts, which rested on the tops of them. Inside this circle was another of smaller stones, and inside this were two horse-shoe shapes, also made up of stones. The outer horse-shoe consisted of five 'trilithons'—two huge upright stones supporting a horizontal one—and the inner horse-shoe was made up of smaller stones, each standing alone. All these stones were worked—that is to say, they had been made

## *Round Barrows and Stone Circles*

into regular shapes, and their surfaces had been smoothed.

Many of the stones have now disappeared or have fallen, though there are enough left for us to see what the monument must have been like.

Inside and at the back of the horse-shoe, is a big block of stone, lying flat, which is called the Altar stone. To the north-east and outside the circular mound is an upright unworked stone, called the Hele stone. At the Summer Solstice (the longest, or midsummer, day) anyone standing at the Altar stone can look straight up the centre of the monument and will see the sun rise from behind the Hele stone.



22. Stonehenge as it is to-day

Just inside the earthwork stand two other solitary unworked stones, one on a line north-west and the other on a line south-west from the Altar stone. One marks the direction in which the sun rises at the Winter Solstice, or shortest day, and the other the spot where it sets at the Summer Solstice. Just inside the entrance in the earthen mound, opposite the Hele stone, is another flat stone, which is called the Slaughter stone, though there is no real evidence that victims were ever slaughtered on it.

Like Avebury, Stonehenge has an avenue leading away from it, though the Stonehenge one is not made up of stones but

## *Round Barrows and Stone Circles*

of two parallel earthen banks which are now almost flattened. The Hele stone stands at the head of the avenue, which runs in a straight line north-eastwards for about five hundred yards, after which it divides into two, one branch going eastwards to an ancient ford across the River Avon, and the other continuing northwards to an earthwork about half a mile away.

The stones of Stonehenge are not all of the same kind. Those making up the big outer circles and the trilithons are called sarsen stones. Such stones are found dotted about all over the downs and the builders of Stonehenge seem to have shaped them roughly on the spot and then dragged them, probably over rollers, or on sledges, to where they wanted them. But the stones of the inner circle and the inner horse-shoe are foreign stones, bluestones, not found anywhere near Salisbury Plain.

For many years there was a great deal of discussion about the foreign stones and where they came from, but during the present century geologists have proved that they could have come from one area only—the Prescelly mountains in Pembrokeshire, about two hundred miles away.

Why did the people who built Stonehenge go to the infinite trouble and labour of transporting stones all that long way, and how did they do it?

We can only guess that for some reason these particular stones were considered especially valuable or holy—for there is no doubt that Stonehenge and Avebury were great temples, though we do not know what kind of worship was carried on in them. Because of the position of the Hele stone and its connection with the Summer Solstice, we believe that the sun must have had something to do with it—though whether the builders were actually sun-worshippers we cannot know. As for how the bluestones reached Stonehenge, they must have been dragged to the water's edge and then brought over the sea on boats or rafts to the mouth of the River Avon. Then, again on sledges or rollers, they must have been dragged to Stonehenge.

Archaeologists who have excavated at Stonehenge have

## *Round Barrows and Stone Circles*

found a great many of the stone tools which were used when the great stones were erected and fixed in position. There were flint axes, heavy hammer stones and mauls, and deers' horn picks—but no trace of metal except, on one stone, a very small stain of bronze seven feet underground, which must have been caused by some tiny bronze object, perhaps an ornament of some kind, or part of one.

During the present century a great deal has been discovered about prehistoric settlements, roads, earth-works and so on through air photography. Features which may be quite invisible from the ground, or which appear only as a meaningless jumble of hollows or low mounds, will, under certain conditions, show up as dark lines from the air, like a map or plan. Even grass or crops growing over ground which has been disturbed in order to sink a post or build a house will be different in colour and texture from that growing around it. These differences are clearly visible from the air, though it may be impossible to see them from the ground.

On photographs of the Stonehenge area, taken from the air, not only could the avenue be traced quite easily, but certain lines showed what experts believed was the route by which the foreign stones were dragged from the river at West Amesbury. Examination on the ground proved that they were right.

Another more exciting discovery made by means of air photographs was the fact that there had been other temples similar to Stonehenge, but made up of wooden posts, which have, of course, completely disappeared. One of these was not far from Stonehenge itself. No one had even suspected that it had ever existed until its position was clearly shown on an air photograph.

Woodhenge, as it is called, had consisted of an earthen bank and ditch enclosing six ovals, one within the other. The long axis of the monument pointed towards the point where the sun rises on Midsummer Day. In the centre the men who excavated the site found the skeleton of a baby which had been offered as a sacrifice, perhaps when the temple was first built.

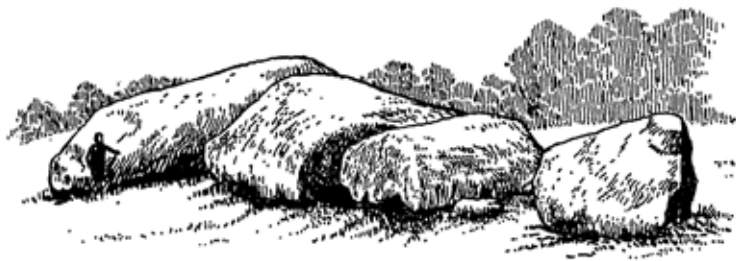
Stone circles of various kinds are, of course, dotted about

## *Round Barrows and Stone Circles*

wherever the early Bronze-age people lived. They were probably local centres of worship, just as our village churches are, while Stonehenge and Avebury were like our great cathedrals.

Solitary standing stones—menhirs—can be seen in many places, and we can only guess why they were ever dragged to that particular spot and erected. Some of them are very large indeed, and getting them into position must have meant very hard work for a large number of people.

One of the largest menhirs known anywhere in the world stood in southern Brittany, a few miles from Carnac, until, possibly early in the eighteenth century, it fell and smashed into four pieces. It was truly enormous, towering up sixty-seven feet six inches into the air, and at its widest part it was



23. The fallen menhir in southern Brittany

thirteen feet six inches wide and seven feet six inches thick. The largest of the four sections into which it has shattered is as large as a small cottage. Experts have calculated that the complete stone must have weighed about three hundred and sixty tons.

But menhirs, as we have seen, did not always stand alone. They were sometimes arranged in rows, as at Avebury, to form avenues. It is to Brittany, again, that we must go if we wish to see the most impressive of these avenues, or 'alignments' as they are called. Just north of Carnac there is a district called Menec over which men of the distant past arranged standing stones to form, not one avenue, but ten, side by side. There are one thousand and ninety-nine stones still standing in the



## *Round Barrows and Stone Circles*

eleven lines, and at the western end are seventy more stones, the remains of what was once a circle—or 'cromlech' as such circles are called. The stones standing at the ends of the avenues nearest to the cromlech are very large, the tallest being thirteen feet high; then, as one goes eastwards, they gradually become smaller and smaller, until at the other end some of them are only three feet high.

The ten avenues stretch for about three-quarters of a mile, and look like a great regiment of soldiers lined up for inspection. No wonder a legend has grown up about them, which the children of Carnac recite to visitors in slow, careful French, so that even those whose knowledge of the language is very meagre will understand. According to the story they tell, St. Cornely (or Cornelius), a Pope of the third century, fled from Rome pursued by an army of pagan soldiers. He crossed Europe, and on reaching Carnac looked back and saw that the army had almost caught up with him. By a miracle he turned all the soldiers into stones, and the people of the district built a church in his honour on the spot where he had stood, between the pagan army and the sea.

But this alignment nearest Carnac, extraordinary though it is, is only one of several. Just under a quarter of a mile beyond the eastern end of the avenues of Menec another group of menhirs, this time arranged in ten lines, or nine avenues, commences, and of this group some nine hundred and eighty stones remain standing. The avenues here are just over half a mile long, and it is believed that there was originally a cromlech at the western end of this group also, but no trace of it remains.

Beyond the eastern end of this second series of avenues, after a gap of about a quarter of a mile, a third set of avenues commences, which originally consisted of thirteen lines forming twelve avenues a little over half a mile long, with, again, a cromlech at the western end. But of this group only about five hundred and forty stones remain in the alignments and thirty-nine in the cromlech, for a great many stones seem to have been broken up, as they were at Avebury, to build cottages.



24. The alignments at Carnac

### *Round Barrows and Stone Circles*

These three sets of avenues are quite distinct from one another and, amazing though they are, it is clear that they were not the only ones in the district. The remains of several others are to be found scattered about over this part of Brittany. Why were they made—and how were they used? We can only guess, and since the people who left these strange monuments behind them left no written records we can never know for certain whether our guesses are right or wrong.

## CHAPTER VI

### *Bronze and Iron*

**T**he people who spread over northern Europe and Britain, and took the place of the Beaker Folk, knew how to make bronze for themselves. They used bronze weapons and tools of all kinds, such as those that were needed by carpenters and smiths, as well as those used by farmers and hunters. In time bronze was even plentiful enough to be used for such things as cauldrons, buckets and shields. Ploughs took the place of flint hoes and digging-sticks.

The earliest complete clothes that have ever been found so far date from the Bronze Age, and were discovered in Denmark. They were of wool, and were on the bodies of men and women lying in hollowed-out oak coffins which were found in the Danish peat-bogs. The women were clothed in waist-length tunics and sometimes short skirts made up of thick cords hanging from a narrow woven strip. Sometimes a piece of woven material had been wrapped round their bodies as a skirt. Round their waists were woven belts which often supported large round plates of bronze. Their long fair hair was tucked into nets made of horse-hair.

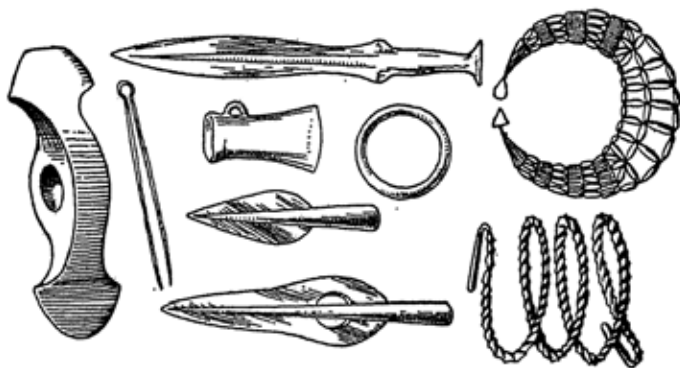
The men of the time wrapped a piece of cloth round them which reached from the armpits to the knees, and held it in place by a belt and bronze plate similar to the women's. They wore cloaks round their shoulders and caps on their heads.

Many Bronze-age people were fond of wearing neck ornaments made in a crescent shape, sometimes of gold and sometimes made up of jet beads. Torques, too, which are ribbons or strips of gold twisted into a spiral, were worn round the necks of both men and women.

## *Bronze and Iron*

Between 600 and 700 B.C. men began to reach northern Europe who knew how to obtain and use iron, which had been used in Asia Minor for some six hundred years or so before that. About 500 B.C. the first Iron-age invaders reached Britain.

Wherever iron was introduced it soon replaced bronze for everything except ornaments. But in northern Europe the iron-using people were still simply farmers, hunters and, when necessary, fighters. They did not build towns, palaces, or even temples of any material that has survived.



25. Bronze Age tools and weapons, and a gold and a jet torque

One of their solitary farms has been discovered and excavated at Little Woodbury, a few miles from Salisbury. Two circles of posts, one within the other, supported the roof of a round house which was about forty-eight feet across. There was a hearth in the centre with four stout posts around it which also helped to support the roof. Enclosing the farm and farmyard were a ditch and palisade. Pits dug in the chalk were found, which had been used for storing food grain which had first been dried in ovens to prevent it growing. The pits were lined with basketry, or skins, but even so they became infected after a short time and had to be abandoned. Then a fresh storage place was dug, and the old one became a rubbish pit, which excavators found full of bones and all the other

## *Bronze and Iron*

oddments that accumulate around a dwelling. Altogether there were three hundred and sixty of these pits round a farm which archaeologists believe was occupied for about three hundred years.

All Iron-age people did not, of course, live in solitary farms of this kind. A British archaeologist, after reading a book about the Swiss lake-villages, felt that the low-lying swampy moorlands near Glastonbury were likely places in which to find relics of British lake dwellings, if there had ever been any. So



26. Objects from Somerset Lake Villages

he began to look for them. In 1892 he noticed a field which, instead of being perfectly flat, was covered with low mounds. He got permission to investigate, and almost at once found clay floors and hearths, with massive timbering beneath them.

Years of investigation showed that a village consisting of seventy or eighty round huts had been built by Iron-age people on an artificial island which they had made in a large, shallow lake which covered the area two thousand years ago. The island was made up of brushwood and logs, and all round the edge there had been a palisade of posts packed very closely

## *Bronze and Iron*

together. The huts had clay floors, and the walls were of posts put from six to fifteen inches apart, with the spaces between them filled in with wattle-and-daub. The roofs were thatched with reeds. A second lake village was found a few years later, not far away, at a place called Meare.

All kinds of things were found among the remains of the Somerset lake villages. There were no bronze weapons or tools, but a great many bronze brooches, rings, bracelets, needles and things of that kind, parts of seven mirrors, and a bronze bowl. Many beads and other ornaments made of



27. Iron Age ornaments

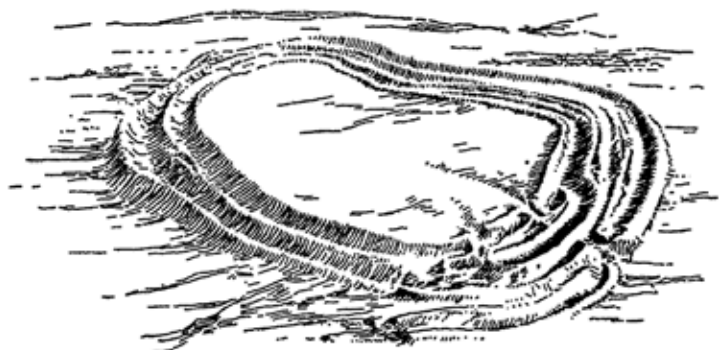
amber, bone, glass, lead and tin were found and one ring or bead of jet. Because peat, which now covers the area, preserves such things, quite a number of fragments of wooden objects were found, such as tubs, ladles, wheel spokes, handles for knives, and a ladder. Not far from the Glastonbury village a farm-labourer found a canoe which had been hollowed out from the trunk of an oak tree.

Some tribes of Iron-age people in Britain buried their dead—or anyway their chieftains—fully dressed, under small round barrows. The clothes have rotted away, but excavators find

## *Bronze and Iron*

their splendid ornaments, such as the brooches studded with coral which they loved, and bronze and jet bangles. Their iron daggers often had bronze hilts which were sometimes moulded into strange shapes, and the scabbards of their swords were decorated with chased patterns, for some of the Iron-age people were very fine decorative artists indeed. Their oval wooden shields were ornamented with bronze mountings, or with coral or red enamel, and sometimes a very great man would have his two-wheeled chariot buried with him, and the harness of his horses.

Some of the most beautiful objects found among the treasures of Iron-age people are the polished bronze mirrors, the backs of which are decorated with flowing patterns.



28. An earthwork fort of the Iron Age

On hill-tops the Iron-age people built huge earthwork camps or forts, such as those in England which we call Maiden Castle in Dorset and Badbury Rings in Wiltshire. The camps were not lived in permanently, but were places of refuge to which people who lived in isolated farms like Little Woodbury could fly with their herds and valuables in time of danger, when fresh waves of invaders arrived from the Continent, as they were continually doing.

Such places must have seen many fierce battles, when men armed with slings repelled from the tops of the high mounds



## *Bronze and Iron*

the invaders attacking from outside. Often, probably, the invaders were driven off or retired, but a time was to come when an invading army strong enough to overcome even the most determined defence swept over Britain.

When Maiden Castle was excavated in the 1930s the bodies of many of its last defenders were found buried round the gates where they had fallen, perhaps one day in the year A.D. 43 when Britain became a province of the Roman Empire.

The Romans brought to northern Europe and to remote Britain a civilization that, in their own land, was already old. Before seeing what archaeologists have unearthed to tell us something of the Romans and their way of life, we must see what they have discovered about far earlier civilizations built up by nations that were already forgotten long before the Roman Empire came into existence.

## CHAPTER VII

### *In Ancient Egypt*

While northern and western Europe was still inhabited by stone-age people who knew nothing about farming, building, town-life, literature or the use of metals, life was already becoming very different in the lands at the eastern end of the Mediterranean and beyond.

First villages, then towns and cities grew, flourished for a time, then sometimes decayed or were destroyed; kingdoms came into existence, became great, powerful and wealthy, then collapsed and disappeared so that sometimes even their names were forgotten.

In the eighteenth century, as you read in Chapter I, Europeans began to take an interest in the relics of past civilizations that were still visible, and travellers began to collect ancient works of art and curios. At first such people were interested mainly in the civilizations which they could read about in the Bible, or in books written by the authors of Ancient Greece and Rome. As you know, they thought that the history of mankind went back only about six thousand years.

One country which had left a great many strange and mysterious monuments behind it, which no traveller could help noticing and wondering about, was Egypt.

Pyramids, which are great man-made mountains of stone; sphinxes, which are creatures with the bodies of lions and the heads of human beings; colossal statues; the ruins of huge temples—these were there, half-buried in the sand, for anyone to see. On most of the monuments there were inscriptions made up of hundreds of little drawings of all kinds of different

## *In Ancient Egypt*

objects such as birds, leaves, bowls, human and animal heads, and so on, grouped together in various ways. But no one knew what the little drawings meant, and it did not seem likely that anyone would ever be able to read a long-forgotten language written in a picture-writing that had not been used for centuries.

It was through Napoleon Bonaparte that men first began to study Egyptian relics really seriously. He led an expedition into the country in 1798, and his soldiers defeated the army in Egypt which tried to resist him. But before long British soldiers and sailors were successful against the French, and Napoleon had to return to France. When he invaded Egypt Napoleon took with him, as well as soldiers, a number of scientists, scholars and artists, and during the French occupation a French Egyptian Institute was founded in Cairo. The men attached to the Institute studied, described and made drawings of any antiquities they could find.



29. Egyptian hieroglyphic writing

One day in 1799, while the French were still in Egypt, some soldiers were working among the foundations of a fort a few miles from a place which we call Rosetta, on the Nile. They dug up a large section of a black stone, and on one side of it, where it had been levelled, three inscriptions had been carved. The first inscription was in the picture-writing, or hieroglyphics as we call such writing, of ancient Egypt; the second was in a simplified form of hieroglyphics which we now call demotic writing; and the third was in Greek. A young officer named Bouchard, who was in charge of the men, saw how important the stone might be and preserved it. Later it was sent to Cairo, and Napoleon gave orders that a number of

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casts of it should be made and sent to scholars in Paris and other cities of Europe.

Scholars who studied the stone believed that all three inscriptions had the same meaning, and that, if so, the Greek one might help them to learn how to read the others. The Greek was soon translated. It was a copy of a decree passed at the ancient Egyptian town of Memphis in 196 B.C. by a Council of Egyptian priests, and it expressed gratitude to the King of Egypt, Ptolemy V, for things he had done for them.

It was only after many years of very hard work by men who had studied the ancient languages of the East that the hieroglyphic writing was at last understood. Most of the credit for deciphering it must go to a brilliant Frenchman named Champollion, who knew more than a dozen languages, including Coptic, which was the language which had been spoken by the early Christian descendants of the Ancient Egyptians. Between 1821 and 1828 Champollion published books in which he explained the meaning of the Egyptian hieroglyphics.

After that scholars could read the many inscriptions and written records which gradually came to light, and they held the key to Egypt's wonderful and ancient story.

In 1801, when the French were compelled to leave Egypt, the precious stone which was to be such a help to scholars—it is called the Rosetta stone—was handed over to the British, with other things the French had collected in Egypt. It is now in the British Museum in London.

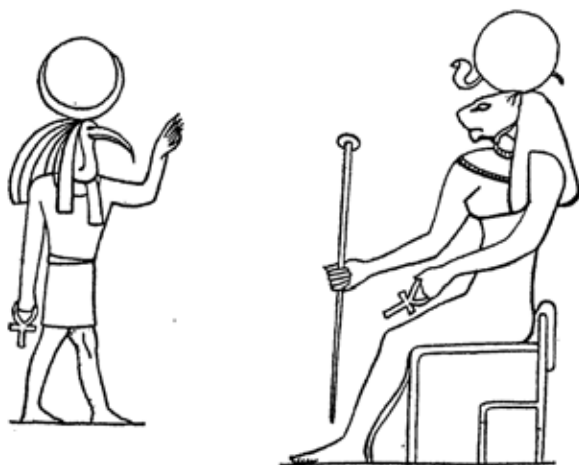
Historians who studied the Egyptian inscriptions, including tablets which were found on which were listed the names of large numbers of Egyptian kings, discovered that in very early times the long narrow land of Egypt, through which the Nile flows, was composed of two separate kingdoms. The southern part was Upper Egypt, and the northern, which included the delta of the Nile, was Lower Egypt.

At a date which Egyptologists now believe to be about 3100 B.C. a king of Upper Egypt named Menes conquered the people of Lower Egypt and became king of the whole country.

## *In Ancient Egypt*

He founded the city of Memphis. The long line of kings who ruled Egypt from that time until the days of the Roman Empire is divided into thirty-one dynasties, or families, and the period before Menes, the first king of the first dynasty, is called pre-dynastic.

Egypt was divided into districts—forty-two in Menes's time—each with a governor, and each district had its own gods, and temples in which they were worshipped. Several of the gods were represented in drawings and sculpture as animals, or as having human bodies and the heads of animals or birds.



30. Bird- and animal-headed gods

There was Bastet, for instance, the cat-goddess, and Khnum, who was a ram-headed god, and Sekhmet, who had the head of a lioness.

Some important gods were worshipped everywhere—Amen-Ra the sun-god, for instance. There was a great temple to him at a place which the Egyptians called On, and which the Greeks later called Heliopolis. The worship of Amen-Ra was the official religion of the kings of Egypt, and the Egyptians believed that the king joined Ra, or became part of him, after death.

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Osiris, the god of the dead, was especially revered at a place called Abydos, where there were splendid temples to him, and where a solemn festival was held in his honour every year, to which people came from other parts of Egypt.

Egyptian temples were massive buildings. When they were complete, an avenue lined with sphinxes often led to the entrance, which was between two huge towers with walls sloping inwards towards the top. Each tower had a stone obelisk—a square pillar diminishing to a point at the top—in front of it. Two such obelisks once stood in front of a temple at Heliopolis, the City of the Sun. The inscriptions on them tell us that they were originally made and placed in position by order of a Pharaoh named Thothmes III (1501–1447 B.C.). Centuries later they were taken to Alexandria and were set up there by order of the Roman Emperor Caesar Augustus in the year 12 B.C. Nearly two thousand years later still one of them was presented to the British nation, and after years of delay and difficulty it reached London and was set up on the Thames Embankment as a memorial to Admiral Nelson and General Abercrombie, who had both helped to drive the French out of Egypt. The obelisk is called ‘Cleopatra’s Needle’—though it really had nothing to do with Cleopatra.

The companion obelisk was presented to the City of New York, and now stands in Central Park.

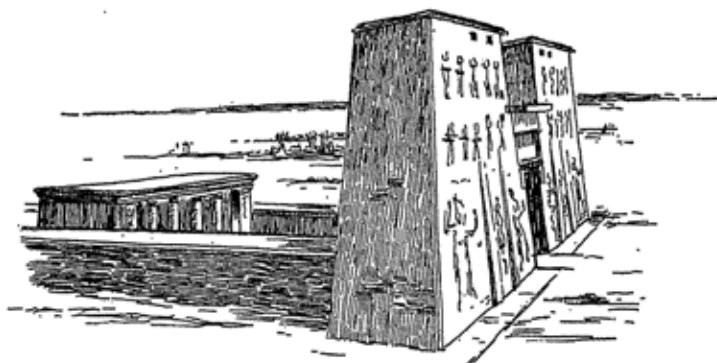
Beyond the great towers guarding the entrance to an Egyptian temple was the outer courtyard, open to the sky, and beyond that a hall which is called the Hypostyle Hall. In it were rows of huge, lofty columns, supporting the slabs of stone with which the hall was roofed. Beyond the hall were the sanctuary and the rooms which the priests attached to the temple used for their ceremonies. The columns, and the walls of the temples, inside and out, were covered with carved and painted reliefs.

The Egyptians believed that after death a man’s spirit went on living, but only so long as his body was preserved and safe, and was supplied with everything it needed. From very early times, therefore, Egyptians did everything possible to make

## *In Ancient Egypt*

sure that their tombs were very strong, so that they would last for ever, and that everything they could need, or would like to have with them in the next world, was buried with them.

Kings and other great and wealthy people had their tombs made during their lifetime. Although the houses in which the people lived, and even the palaces of the kings, were made of mud-brick and wood, so that they have usually disappeared completely, the tombs, after very early times, were made of stone, or were dug out of the solid rock, so that vast numbers of them survive, or are still hidden under the shifting sands.



31. An Egyptian temple

Archaeologists who began excavating the tombs in the nineteenth century found that those of the earliest kings were made by sinking a shaft down into the rock and then digging out several chambers, in one of which the coffin was placed. In the other chambers the personal possessions of the dead king were stored.

Over the grave shaft a large building containing many rooms was erected in which were stored wine jars, food vessels, tools, furniture and other things the dead man might need. On the outside of the walls of this building were recesses, like small rooms, to which offerings were brought by the relations of the dead man and by priests.

Sometimes this upper building (which is called a mastaba)

## *In Ancient Egypt*

was simply a solid mass of rubble enclosed in brick, with the recesses on the outside, and more rooms were cut out in the solid rock below, at the bottom of the vertical shaft. A sloping ramp or a flight of steps led down from the northern end of the mastaba to join the shaft near the bottom. When the coffin and everything else had been placed in the tomb, the entrance to it was sealed with a heavy stone block, and the shaft and stairway were filled in with gravel or rubble and bricked over, so that no trace was visible of where they had been.

Of course, humbler people did not have such elaborate tombs as this. They were buried in pits, without the upper buildings, and the poorer people were buried together in one chamber.

After an Egyptian died his body was embalmed (treated in such a way that it would not decay) and was then wrapped in linen bands and, if his family was rich enough, placed in several coffins, one inside another. We call the embalmed bodies 'mummies'.

The coffins, or mummy-cases, were the right size and shape to fit closely over the body, or over each other, and all the coffins were richly decorated with pictures and emblems representing the various gods connected with the dead and the underworld. The part of the coffin which came over the dead person's head was carved into the form of a face, and was sometimes gilded or covered with a gold mask, with eyes of brilliant coloured enamel. If the family was a wealthy one, bead necklaces and jewels were placed round the necks or on the breasts of the mummy and of each of the mummy-cases.

Finally the mummy, in its mummy-cases, was placed inside a large box-shaped coffin, or sarcophagus, of stone or wood before being placed in the tomb. In the coffin with the mummy a roll of papyrus was placed on which was written part of the



32.

A mummy-case



## *In Ancient Egypt*

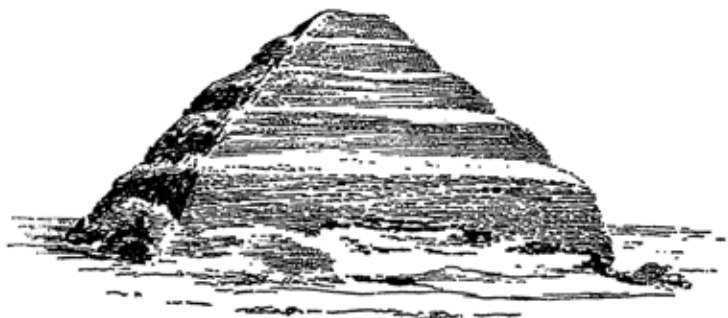
'Book of the Dead'. This was an Egyptian religious book which told the dead man what he must do and how he must behave in the other world, and the passwords that he must know at different stages of his journey to join the gods. Papyrus is a kind of paper made from a reed growing on the banks of the Nile.

In case the body should decay or be destroyed in spite of all the care that was taken, a statue of the dead person, as like him as possible, was also sometimes placed in a special chamber in the tomb. The Egyptians believed that the spirit of the dead person would be able to use the statue instead of his own body if necessary. Sometimes models of other things were used instead of the actual objects. Pictures of servants brewing and baking, spinning and weaving, farming and harvesting, were carved and painted on the walls of the tomb chambers. The Egyptians thought that these would ensure that such services would still be performed for the dead man. Tiny statues, or figurines, of servants were put in the tomb, to serve the master in the other world.

In spite of all the care that was taken to make tombs safe—especially those of kings, in which vast quantities of gold and other precious things were placed—robbers very often *did* manage to get in. Papyrus rolls written five thousand years ago describe such robberies, and the punishments meted out to robbers who had been caught.

It was to make even more certain that their bodies would be undisturbed that some early kings of Egypt built the huge pyramids which travellers have marvelled at ever since. The Greeks included them among the 'Seven Wonders of the World'. For the pyramids—great masses of masonry made up of thousands of enormous blocks of stone, each weighing several tons—were simply tombs, each built for the burial of one king. They were marvellous architectural and engineering feats carried out by men who had none of the machinery we have to help them—nothing but vast numbers of toiling human beings.

The first pyramid started as a mastaba, but was enlarged



33. The Step Pyramid

and altered until it became the 'Step Pyramid' which can still be seen at a place called Sakkara. It was the tomb of a Pharaoh named Zozer. The pyramids did not stand alone. They were surrounded by temples, halls and chambers in which priests performed ceremonies in honour of the dead king, and where offerings for him were placed. A wall surrounded the whole group of buildings.

Yet even the pyramids, although they were so strong, were not safe from robbers. So a Pharaoh named Thothmes I, who lived from about 1545-1515 B.C., decided to erect his temples in one place, near the Nile, but to have his tomb hollowed out of the cliff side of a lonely valley. The architect of the tomb, whose own tomb with its inscriptions has been found, tells us: 'I supervised the excavation of the cliff-tomb of His Majesty alone, no one seeing and no one hearing.'

## CHAPTER VIII

### *Tombs of Gods and Men*

**A**fter the French investigators who had gone to Egypt with Napoleon's expedition had published reports on the things they had seen, Europeans became tremendously interested in Egypt and its treasures. All kinds of people wanted to buy curios from that mysterious land. Native Egyptians, like the robbers of thousands of years before, began to dig and hunt in all possible places for the tombs of their ancestors, which were now often hidden under masses of shifting sand. These Egyptians were not in the least interested in the history of their ancient country, but only wanted to find things which they could sell to travellers, so they were not careful how they excavated, and did not, of course, keep records of how and where they found anything. They did a great deal of damage and destroyed a great deal of valuable evidence.

But they were not the only culprits, or even the worst. European investigators also arrived in Egypt, and some of them, like the earlier collectors in Greece and Rome, were only interested in what they could find and not in what they could learn about the past.

One of the early collectors in Egypt was an Italian named Giovanni Belzoni, who had lived in England. He went to Egypt in 1815 to try to interest the Egyptians in a water-wheel he had invented. He did not succeed—but he did become interested in the wonders that were already being unearthed. Soon he began to excavate on his own account. He hunted for tombs so that he could find the papyri which were buried with the dead.

## *Tombs of Gods and Men*

Belzoni smashed his way into ancient tombs without caring in the least how much damage he did (he thought nothing of using a battering ram to force open doors)—but nevertheless he made some wonderful discoveries which later archaeologists were able to follow up.

In the Valley of the Kings, as we now call it, he told his workmen to clear stones, earth and rubbish away from a spot by the cliff-side where he thought the entrance to a tomb might be concealed. By extraordinary good luck, he was right, and only a few hours later, with a candle in his hand, he was able to enter one of the most magnificent of all the valley tombs that were, in time, to be discovered.



34. A papyrus roll

It was the tomb of Pharaoh Seti I, the father of one of Egypt's most famous Pharaohs, Rameses II. The men who had hewn it out of the solid rock of the hillside had cut, first, a flight of steps, then a corridor leading to a second flight of steps, then another corridor leading to three large chambers. Beyond were more steps and corridors, then an antechamber with, beyond it, a great pillared hall in which the king's sarcophagus stood. It was of alabaster, two inches thick, and sculptured all over with tiny figures. Opening out of the hall on all sides were more chambers, and below the sarcophagus was another flight of steps leading to another corridor which was apparently never finished. The walls of nearly all the corridors and chambers were covered with hieroglyphics describing the funeral ceremonies and the strange things which the Egyptians believed about their dead.

## *Tombs of Gods and Men*

The sarcophagus was empty, and it was not until the end of the century, long after Belzoni was dead, that archaeologists discovered what had happened to the mummy—and those of many other kings who had been buried in the tombs in the Valley of the Kings.

Belzoni took Seti I's sarcophagus back with him to London, and exhibited it with many other interesting things from Egypt. It stayed in London, and we can see it now in Sir John Soane's Museum in Lincoln's Inn Fields.

Belzoni was the first European to find his way into the second largest of Egypt's huge pyramids—one that was built to be the tomb of a Pharaoh called Chephren. In Belzoni's time no one knew where the entrance to the pyramid was, or even if there were any rooms or corridors inside it at all. The stones which formed the outer casing of the pyramid had fallen and piled themselves up at the foot of the building to a great height.

First of all, Belzoni got his Arab workmen to remove forty feet of debris from the east side, and found a spacious pavement which had connected the pyramid with a temple building. Then he uncovered a great part of the face of the pyramid on the northern side. After a great deal of work he found an opening leading into a low passage which descended for over a hundred and four feet. It was full of large stones which had to be cleared away. Then Belzoni and his Arabs reached a wall, or portcullis, of granite, which fitted into slots in either side wall. Fortunately there were about eight inches between it and the ground, and they were able to raise it with levers and stones into the space above from which it had been lowered, until there was room to crawl through. The passage continued beyond, until at last they reached the burial chamber, where a fine sarcophagus of polished granite was let into the floor. The lid had been taken off and was broken into two pieces, and there was no sign of Chephren's mummy, or of any of the things which had been buried with him.

Collectors such as Belzoni and others like him were anxious to find all they possibly could for themselves or their em-

## *Tombs of Gods and Men*

ployers, and there were no laws to stop them from taking things out of the country. So they competed with each other in their search for hidden treasures, and even tricked, attacked and fought each other at times. These early excavators must have had many thrilling and exciting adventures, but to read about their methods and the things they did fills modern archaeologists with fury.

Nevertheless, museums such as the British Museum in London and the Louvre in Paris owe them a debt, for many of the Egyptian treasures they contain were found and sent out of the country at this time by these early investigators.

In time European universities and learned bodies began sending men to Egypt whose aim was not to collect loot, but to make lists of the antiquities of Egypt known up to that time, to examine and try to understand and explain them, to read the inscriptions on them, to study the paintings and sculptures on the walls, and to find out, if they could, when the different buildings were erected. One of the greatest of these serious students was Richard Lepsius, who had been a lecturer at the University of Berlin.

By 1850 the chief antiquities that were visible on the surface had been listed. In that year a young Frenchman named Auguste Mariette, who had been an assistant in the Egyptian Department of the Louvre in Paris, arrived in Egypt to hunt for Coptic manuscripts. But almost at once found himself much more interested in the monuments and ruins he saw around him—and also horrified at the way the country was being plundered by collectors.

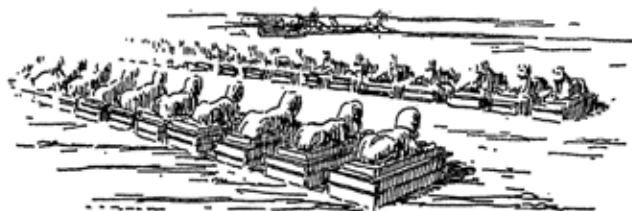
Mariette himself began excavating almost immediately he arrived, and he made some wonderful discoveries.

In Cairo, Mariette noticed a number of ancient sphinxes, all of the same kind, decorating the gardens of some of the Egyptian officials, and he wondered where they had come from. Then one day, at Sakkara, near Cairo, where the Step Pyramid is, he noticed the head of a similar sphinx sticking up out of the sand. There was an inscription on it in hieroglyphics relating to Apis—and Mariette remembered that Apis was the

## *Tombs of Gods and Men*

name of a sacred bull that the Ancient Egyptians had worshipped at Memphis, because they believed that he was an incarnation of the god Osiris.

Writers of Greek and Roman times had described a great temple near Memphis where the sacred bull was kept and tended by priests, and sometimes exhibited to the public or led in processions. They had said that there was an avenue of sphinxes leading to the temple. The temple and the avenue had disappeared long before the nineteenth century, under the drifting sand which soon buries any neglected building in such a dry country as Egypt, and no one knew where they had stood.



35. An avenue of sphinxes

Mariette hired some workmen and set them to work. Very soon they had cleared the sand away from a hundred and forty sphinxes—all that remained of the original six hundred foot avenue—and had found the ruins of the temple of Osiris-Apis at one end of it. Then, at the other end, Mariette discovered something even stranger—the burial place of the sacred bulls.

At the bottom of a steep shaft was an arched gallery about twenty feet high and wide, hewn out of the rock. On either side of the gallery were chambers or recesses, in each of which stood a huge sarcophagus cut out of a solid block of granite. Each one weighed, probably, about seventy tons. In each sarcophagus one of the sacred bulls had been buried with great ceremony, as though he had actually been a king or a god. There were inscriptions on the walls recording the births and deaths of the bulls. Most of them had lived for from seventeen to twenty years, and we know from the writings of Roman

## *Tombs of Gods and Men*

times that the bull was not allowed to live beyond the age of twenty-five. Then he was ceremoniously drowned by the priests who had served and worshipped him.

After Osiris-Apis died his body was embalmed and there was a costly funeral and great public lamentations. These continued until his successor was found—a young calf who was recognized by the particular marks which the sacred Apis bull must always have. The calf was brought to Memphis in great state in a golden cabin on a special barge.



36. A bronze statue of Apis,  
the Sacred Bull

The name of the temple of Osiris-Apis became changed when the Greeks ruled Egypt (332–30 B.C.) to Serapis, and the burial place of the sacred bulls is called the Serapeum.

During the years he spent in Egypt Mariette found many other interesting things. One of them, not far from the Serapeum, was the tomb of a great and wealthy man named Ti, who lived during the sixth dynasty (probably 2900–2200 B.C.) and who may have been the architect of some of the pyramids. The walls of Ti's tomb were covered with the most wonderful reliefs showing in great detail what kind of life Ti had lived, and the activities of his servants and slaves. Gold-smelters, leather-workers, ship-builders, are shown at work, and farm workers are reaping, threshing and winnowing, driving or slaughtering animals, making flax into linen, cutting down



## *Tombs of Gods and Men*

trees, and so on. Ti himself is always shown three or four times larger than anyone else.

This tomb, and the many that were found and examined later by other archaeologists, give us a very clear picture of what life in Egypt was like, and the kind of people who lived there four or five thousand years ago.

About eight years after Mariette arrived in Egypt he was appointed Director of an Egyptian Service of Antiquities which was then created. This gave him the power to forbid any excavations except those he conducted himself, and to stop the cave-robbing exploits of collectors and their agents. For a long time he tried to persuade the Khedive, or ruler, of Egypt to found a museum where the interesting things that were found could be housed, but the Egyptians were not themselves interested in the relics of their country's past, and did not care what happened to them. It was not until Mariette found some gold and jewels in a tomb, which someone tried to steal from him, that he succeeded in getting his museum.

After that, any antiquities found in Egypt had to be submitted to the Museum, and could not be sold or taken out of the country without permission.

Mariette died in 1880, and was succeeded by Gaston Maspero. The following year Maspero found the entrance to a pyramid not far from the Step Pyramid, one which was built by a Pharaoh named Unas. The entrance was not in one of the faces of the pyramid, but under the pavement at the base. The passage inside had originally been blocked by three granite portcullises. But the important thing about this pyramid was that the walls of the burial chamber and of a vestibule outside were covered with columns of hieroglyphic inscriptions. Each sign had been filled in with blue colour, so that it stood out clearly against the limestone background.

Similar collections of inscriptions were later found in other pyramids, and they are called the Pyramid Texts. They are spells, hymns and prayers to the gods, and written records of words which the priests attached to the pyramid and its temples were supposed to recite every day when they laid

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fresh provisions for the dead king on an altar. Like the papyri buried with the dead, they were intended to ensure that he would be safe and happy in the next world.

After a time foreigners were again allowed to excavate in Egypt, though they still had to report their finds to the Museum. Several countries formed Egyptian Societies and raised money to send expeditions to Egypt. The work of the English Society was directed by Sir W. M. Flinders Petrie.

The work Petrie did in Egypt and, later, in Palestine, is very important indeed, because he (like General Pitt-Rivers who was working at about the same time in England) considered that archaeologists should study *everything* they found—and not only the things which were impressive or important as works of art, or interesting as curios, or valuable because they were of gold, or because they were associated with great or famous people.

Petrie insisted on even the smallest and apparently most unimportant things being most carefully examined and on records being made of the exact position in which they were found. He insisted, too, on the results of all investigations being published as soon as possible. He was the first to show that scraps of even the crudest pottery could be arranged in order, from the oldest to the most recent, according to how they were made or decorated, and where, and in which levels, they were found. Broken pottery, and similar trivial things, which earlier archaeologists had not bothered about, were sometimes found with articles from Greece or some other country of which the dates were more nearly known. This helped the archaeologists to calculate the age of the pottery and, therefore, the age of other things found on the same levels.

Archaeologists learnt a great deal about the history and religion of Ancient Egypt through deciphering the inscriptions and studying the drawings and reliefs in temples and tombs. In quite a different way they discovered many things about the everyday life of ordinary people. They began to excavate some great mounds, which turned out to have been the rubbish

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heaps outside the towns of Ancient Egypt. In the mounds were vast numbers of papyrus rolls—the waste papers of thousands of years ago, which had survived in the dry atmosphere of Egypt. They were private letters, accounts, stories, business letters, descriptions of journeys for trade and other purposes, reports of the trials and punishments of criminals such as tomb-robbers, and many other things of the same kind.

In 1887 a discovery of quite a different kind was made, and a very important one. A peasant woman found, near a village called Tell-el-Amarna, not a piece of papyrus, but a baked clay tablet which was inscribed with 'writing'—but not the picture-writing of Egypt. This writing was the kind used in Babylon at that time, which we call cuneiform. Other Egyptians dug, and soon they had discovered a great many similar tablets, mostly packed in the jars in which they had been stored.

At first no one in authority took much interest in the find, but when they did, and the tablets were properly examined, they were found to be very interesting and important indeed.

The tablets turned out to be official letters which had passed between a Pharaoh named Amen-hetep IV (or Akh-en-Aten) and Egyptian representatives in other countries, or kings who were subject to Egypt or allied to her. But although they were addressed to an Egyptian king they were written in the Babylonian manner—which shows that Babylonia was the supreme power in the civilized world at that time, the fourteenth century B.C.

The tablets, and the excavations which were later carried out by Petrie and others among the ruins of a temple and town near by, tell us some very interesting things about the history of Egypt.

The Egyptians, as we have seen, worshipped a great many gods. It seems that Amen-Hetep IV tried to change all this. He worshipped one god only, the sun, and declared that there were no other gods. He changed his name to Akh-en-Aten—'aten' meaning the disk, or sun. He moved his family and his government away from any city connected with the worship

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of Amen-Ra or any other god, and built a new city and palace, and a temple to Aten, at Tell-el-Amarna. Here he lived with his wife Nefertiti, and fragments of statues of them both have been found by Petrie and others among the ruins of their palace.

Naturally the priests who served the other gods were furious with the king, and there seems to have been a great deal of trouble at home and abroad. Egypt at this time was weak, and many of the letters contain appeals for help from her provinces in western Asia—help which she was apparently unable to give.

After Akh-en-Aten's death his successors returned to the worship of Amen-Ra and the other gods, and lived at Thebes. The city in which the 'Heretic King', as Akh-en-Aten is called, had lived was deserted. Everything of value, probably, was taken away, but the official letters, the precious tablets, were left behind, stored in their earthenware jars—not to be seen again for nearly four thousand years.

## CHAPTER IX

### *Exploring the Pyramids*

Sir Flinders Petrie was one of the first archaeologists to see the importance of preserving the little, valueless things—but that does not mean he was not as interested as other archaeologists in the big things, and in solving the mysteries connected with such monuments as the pyramids. He spent two seasons excavating and examining the Great Pyramid.

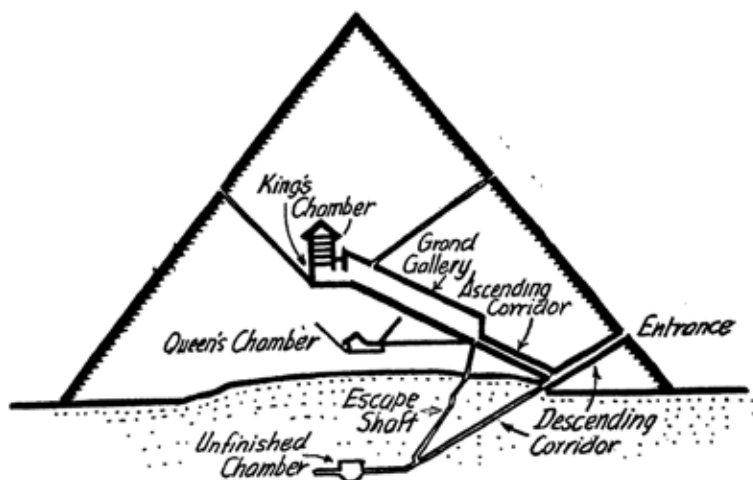
There are about eighty pyramids altogether, or the remains of them, in Egypt, but three which stand near to each other at Gizeh, with the famous giant Sphinx nearby, are so often photographed that they are the best known. The largest one of all, the Great Pyramid, is a truly enormous building. Each of its four sides measures at the base a little over seven hundred and fifty feet, and it covers an area of thirteen acres. Those of you who know London can get some idea of what this means by standing in Lincoln's Inn Fields, which covers about the same amount of ground. When it was complete the height of the Great Pyramid was over four hundred and eighty-one feet, but the top thirty-one feet have disappeared.

If the Church of St. Peter in Rome, the largest church in the world, could be placed inside the Pyramid as it was when it was complete, there would still be over thirty feet of the Great Pyramid rising above the dome of the great church.

The whole enormous mass was made up of about 2,300,000 separate blocks of local stone, and each block weighed about two and a half tons, while there were some weighing as much as fifteen tons. The whole of the outside was faced with



37. The pyramids of Gizeh and the Sphinx



38. Inside the Great Pyramid

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blocks of finer limestone which had to be brought from a distance. All this outer casing, except a few blocks at the bottom, has been taken away and used, probably, for other buildings.

No wonder the Great Pyramid has been discussed, described and argued about for thousands of years.

The entrances to the pyramids were usually on the north side, and that of the Great Pyramid is fifty-five feet above ground level, and twenty-four feet east of the centre. Inside is a passage about three and a half feet wide and less than four feet high. It descends for about three hundred and forty-five feet through the stone core of the pyramid, and then through the solid rock on which the pyramid stands, then it continues horizontally for twenty-nine feet to an underground chamber. But the chamber is unfinished, and evidently the builders changed their plan.

In the descending passage, about sixty feet from the entrance they cut a hole in the roof, and made a fresh passage going upwards through the masonry for a distance of a hundred and twenty-nine feet. Then they made another horizontal passage leading to a chamber in the centre of the pyramid. This is now called the Queen's Chamber, but actually, like the underground one, it seems to have been intended originally for the king's burial chamber, but to have been left unfinished when the plan was again changed. Something very remarkable indeed was then built.

From the top of the ascending corridor, and still ascending in the same direction, the builders made the Grand Gallery—one hundred and fifty-three feet long and twenty-eight feet high. At each side its walls of polished limestone are about seven feet six inches high, and above that level each course, or layer, of stone projects about three inches inwards beyond the one below, until at the top the remaining space is roofed with stone slabs three feet five inches wide. We call a roof of this kind a 'corbelled' roof.

At the top of the Grand Gallery a narrow, low passage starts which leads first to a small antechamber, and then into the

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King's Chamber, measuring just over thirty-four feet by just over seventeen feet. In it the first modern investigators found the granite sarcophagus in which the king's body, probably in an inner coffin of wood, had been placed.

The roof of the King's Chamber is made up of nine slabs of granite which weigh altogether about four hundred tons, and above the roof are five separate chambers one above the other. Four of them have flat roofs, and the top one has a pointed roof. These chambers were made so that the weight of the upper part of the pyramid would not press down directly on the ceiling of the burial chamber and crush it. The pyramid is so strong, and the men who built it nearly five thousand years ago were such clever designers, that although each of the nine slabs roofing the burial chamber, and many of those roofing the compartments above, have been cracked at some time, presumably by an earthquake, they are all still in place.

The Great Pyramid was built for a Pharaoh of the fourth dynasty named Cheops, who lived about 2700 B.C. After he died and his coffin had been placed in its granite sarcophagus, three barriers of stone were placed across the anteroom outside the burial chamber, but only the slots in the side walls show us where they stood.

Then the lower part of the Ascending Corridor leading up from the roof of the Descending Corridor to the Grand Gallery was blocked with three granite plugs which completely filled it, and a slab of limestone was used to fill in the hole in the roof of the Descending Corridor. The men who let down the three plugs to block the corridor, work which must have been done from above, escaped afterwards by means of a shaft they had prepared which led from the lower part of the Grand Gallery right down the pyramid and rock to the descending gallery far below.

No one, now, can tell exactly how the entrance to the Great Pyramid was dealt with, as the original casing of fine polished limestone was stripped off long ago. When it was perfect it must have hidden any trace of the spot where the entrance had been.



## *Exploring the Pyramids*

The Great Pyramid is different from the other pyramids not only because it is bigger, but also because the burial chamber is high up in the body of the building. Usually it is hewn out of the rock below. The builders tried in every way they could think of to make certain that robbers would not find their way into the pyramids, or that, if they did, they would not find the burial chamber. No two pyramids are alike in the arrangement of their corridors and chambers. But it was all no use. Modern investigators, when they have found the way in, have always found the sarcophagus damaged and empty and the treasures gone.

Perhaps such robberies took place in Ancient Egypt in unsettled times, and the great tombs were sealed up again by priests and Pharaohs when they regained power and things were settled again.

Flinders Petrie, in 1889, investigated a pyramid at Hawara. He could not find the entrance, so he decided to drive a tunnel straight in through the bulk of the pyramid and try to find the burial chamber. He succeeded—though it took him many weeks—and in the end his hope that he had found a pyramid which had never been opened before was disappointed. There were two sarcophagi in the burial chamber, but they were both empty, and everything of value had been taken away.

Water had seeped into the tomb chamber, but Petrie, scraping through the mud and water, found at last an alabaster vessel inscribed with the name of Amen-amhet III, and other things in another chamber inscribed with the name of his daughter. These told him whose tomb he was investigating.

Petrie wanted to know how the robbers had found the way in, and where the real entrance had been, so he tried to trace back the way they had come. This pyramid had been built of mud brick, and only the outer covering had been of limestone, so the water which had penetrated had turned some of the corridors into tunnels half-filled with mud. Nevertheless, in time Petrie forced his way through innumerable difficulties, and this is what he found.

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The entrance was on the south side, about eighty feet west of the centre. A flight of steps led down from it to a small chamber. Beyond was a passage—but it led to nothing but a blank wall. But in the roof of the passage, completely concealed, was a huge block of stone weighing twenty tons, which slid sideways. Above this gigantic trap door was another chamber, with two passages leading out of it. One passage was completely blocked with large stones—but it was blind, and led nowhere. The other passage, which lay behind a wooden door, again led to a chamber which could only be left by means of the roof, and at the end of another passage beyond, running at right angles, there was another similar obstacle.

At last, after all this work and trouble, the robbers had reached a large antechamber. At each end of it there was a deep shaft, and each shaft had been blocked with stones, so that robbers might think the entrance to the burial chamber lay at the bottom. The whole of the northern side of the antechamber had been blocked in the same way, but beyond the barrier of stones lay nothing but a wall.

The actual burial chamber lay on the south side at a lower level, and it had been reached by means of a trench across the antechamber, which had been filled up and paved over after the king's funeral.

Yet, in spite of all these precautions, the tomb robbers of Ancient Egypt had managed to find their way in. Very likely they had help from dishonest priests, or from men who had helped to build the pyramid and knew its secrets.

At Gizeh, not far from the three well-known pyramids, is the Great Sphinx, which is two hundred and forty feet long and sixty-six feet high. It was carved out of a great rock in the time of Chephren (whose pyramid is the second largest, and was the one entered by Belzoni), and the face is believed to have been a portrait of him. Between the outstretched paws is a slab of granite which records that Thothmes IV, of the eighteenth dynasty, cleared away the sand which had nearly buried the body. In Roman times the sand was again cleared away, and again in 1818, 1886, and in 1925—which shows how

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very easily Egyptian monuments, even large ones, can be buried and lost.

As we have seen, the pyramids were not safe from robbers, and neither were the rock-hewn tombs in the Valley of the Kings. However carefully the entrances were concealed, and however strongly the tombs were guarded by the priests who were responsible for them and the garrison in charge of them, robbers still broke in.

The papyri which have been found tell us that there were gangs of these thieves, and that some of the guards, or corrupt priests, or even, sometimes, the mayors or governors of a district, were in league with them. There are copies of confessions by robbers, showing how they stripped the mummies in order to find the gold and jewels in which they had been decked.

Other papyri and inscriptions tell us how faithful priests worked to protect the tombs in their charge, and how they moved the royal mummies from one tomb to another, perhaps when some spy warned them that the secret entrance to a tomb had been discovered, and it was in danger of being entered. Sometimes a dozen or more royal mummies would be crowded together in one tomb for safety—only to be moved on yet again when danger threatened.

Gradually, during the nineteenth century and since, modern archaeologists have found the rock tombs of all the kings who they believe were buried in the Valley, and, except for one which we shall read about presently, all had been robbed of their treasures in ancient times, and in many cases the mummies were missing.

In spite of the laws which the Government of Egypt made during last century, native Egyptians continued to search for tombs (and still do) in order to find goods which they could sell to visitors.

One day in 1881 an American tourist met an Arab at Luxor (which stands where the ancient city of Thebes stood) who said he had genuine Egyptian antiquities to sell. The American bought a very fine papyrus roll and smuggled it out of the

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country. He showed it to an expert in Europe, and the expert wrote to the Egyptian Museum in Cairo. Professor Gaston Maspero, who was then in charge of the Museum, realized that the papyrus described to him must have come from the tomb of a Pharaoh of the twenty-first dynasty. This was not the first rare treasure of the same kind which had been secretly sold during the last few years.

Where were the tombs from which such things were being taken, and who had found them?

Professor Maspero sent a young assistant of his secretly to Luxor, and he posed as a rich visitor anxious to buy antiquities. In time he was introduced to an Arab named Abd-el-Rasul, who showed him treasures which the young man knew must have come from royal tombs three thousand years old.

The Arab was arrested, but nothing would make him or any of his large family confess. People came forward from his native village of Kurna to swear that he and all his family were honest. He was released—but the experience had frightened the other members of the family, and about a month later one of Abd-el-Rasul's brothers came forward and told a most extraordinary story.

It turned out that in the village of Kurna tomb-robbing was a kind of business which had been handed down from generation to generation ever since the thirteenth century. Underneath part of the village, and in the surrounding districts, there were thousands of tombs in which wealthy men and women of Ancient Egypt had been buried, and not far away was the Valley of the Kings.

The greatest stroke of luck any of the villagers had ever had, had come to Abd-el-Rasul about six years earlier. By chance, in a desolate spot in the mountains, he had found the entrance to an underground chamber in which there were a number of royal mummies, and he had told the secret only to his nearest relations. They had all sworn to tell no one else, and to leave the mummies where they were, taking only a few articles at a time so that the authorities should not become suspicious.

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A representative from the Museum hurried to Luxor and was led to a lonely spot, then up the hillside to a shaft hidden among rocks. He descended it, and went forward until he found himself in a vast chamber in which there were rows and rows of sarcophagi—forty in all. The inscriptions on them showed that they contained the mummies of some of the greatest and most famous of Egypt's rulers. There was the mummy of Seti I—the very king whose original tomb and empty sarcophagus had been found by Belzoni in 1817—and of his son, Rameses II, who some archaeologists believe may have been the Pharaoh who was ruling Egypt at the time of the Exodus, when the Israelites with Moses as their leader left Egypt to go to the Promised Land.

Some of the mummy-cases were beautifully carved and painted, some were covered with gold. Except that some of them had been roughly opened by members of Abd-el-Rasul's gang, they were all perfectly preserved, although they had been in their secret hiding place for three thousand years.

The priests who had found it so difficult to guard the royal mummies in the Valley of the Kings had at last made this fresh hiding place for them, and had moved them there in secrecy. And this time, in spite of the large number of people who must have been employed on the work, the secret had been kept until Abd-el-Rasul stumbled on it, thirty centuries or more after the death of the last man who had known it.

## CHAPTER X

# *The Treasure of Tut-ankh-Amen*

**I**n Egypt some of the most thrilling discoveries have been made during the present century. One day in 1902 an American archaeologist named Theodore Davis, who had been excavating in the Valley of the Kings for some years and had found several tombs, was told by his workmen that they had found a cut-stone step. They were digging at a spot between the entrances to two tombs which had already been explored.

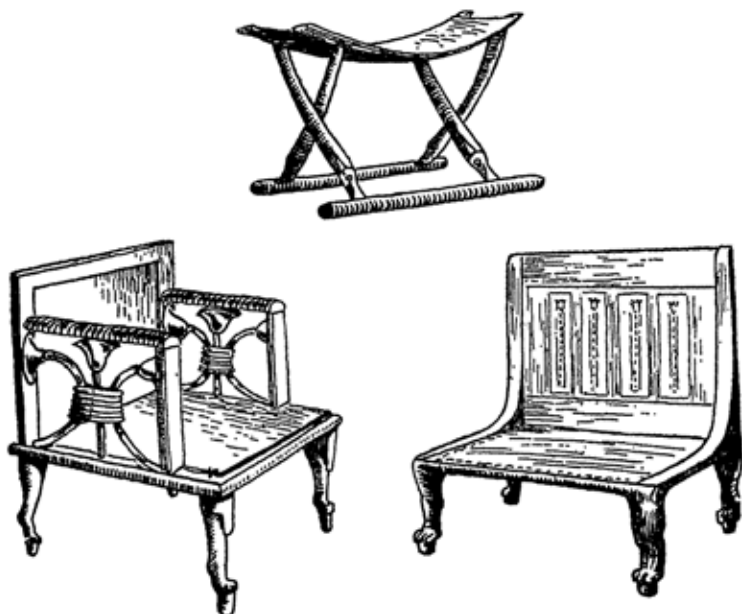
It took the workmen twelve days to clear away the debris from the steps, but at last they found a door cut out of solid rock. It showed signs of having been forced at some time. Beyond the door was a flight of steps, then a stone wall in which a hole had been cut large enough for a man to crawl through. Beyond was a sloping passage, then another wall. The excavators made a hole in it, and Davis, with a candle in his hand, peered through. To his excitement he saw the gleam of shining gold.

The tomb, when they were able to enter it, turned out to be that of the grandfather, Iuaa, and the grandmother, Thuaa, of the 'heretic king' who had tried to change the religion of Egypt. Although robbers had entered it and had taken away the smaller jewels, all the bigger things were there just as they had been left at the time of the funeral. There were three beautifully carved chairs and two beds, all decorated with gold, a number of alabaster vases and some beautifully made

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and decorated boxes, a pair of sandals which Iuaa probably wore when he was alive, the remains of joints of meat intended to feed the dead couple in the other world—and many other things in perfect condition, and many of them decorated with gold.

Up to that time, the tomb of Iuaa and Thuaa was the only one that had ever been found containing the original grave furniture undisturbed.



39. Chairs and a stool from Egyptian tombs

But a much more thrilling and exciting discovery was to be made some years later. An Englishman, Lord Carnarvon, with the help of Mr. Howard Carter, who had worked with Petrie and Davis, had been excavating in Egypt for some years, without very much success. Then, in 1914, Lord Carnarvon was granted permission to dig at a certain spot in the Valley of the Kings—though experts at the Cairo Museum warned him

## *The Treasure of Tut-ankh-Amen*

that they did not think the spot was a promising one, and that in any case the whole Valley had been excavated again and again and it was almost impossible that there should be anything very interesting left to be discovered.

By that time the tombs of nearly all the Pharaohs known to have been buried in the Valley of the Kings had been found. Of the one or two which were still missing, one was that of Tut-ankh-Amen, a young man who had married the 'heretic king's' daughter, and had become the next king of Egypt. He had returned to the old religion and had died in 1355 B.C. Near the spot where Lord Carnarvon and Howard Carter wanted to dig, a cup and seal bearing this Pharaoh's name had been found, and that had made them hope that his missing tomb might not be far off.

The First World War started in 1914, and held up work for a time. Digging started again after the war but for some years nothing interesting was found.

At one spot there were some ancient huts which had been built about three thousand years before, and in November 1922 Carter decided to have them removed and to dig beneath them. The very next day his workmen found the first step of a flight leading down into the hillside. Piles of debris had to be removed—then they came to a sealed door. But the door had evidently been opened and resealed twice, some time before the huts were built up above.

Beyond the door was a passage choked with rubble, and another sealed door. Howard Carter, with trembling hands, as he tells us, made an opening in the upper corner of the door until he could hold a candle through and peer in, whilst Lord Carnarvon and his daughter and their assistants anxiously waited.

'... as my eyes grew accustomed to the light,' Carter wrote afterwards, 'details of the room within emerged slowly from the mist. Strange animals, statues and gold—everywhere the glint of gold.'

When the door had been opened they found themselves in a room over twenty-six feet long by nearly twelve feet wide,



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and it was crammed and crowded with objects piled one upon another. There were golden thrones and couches, statues wearing golden kilts and with golden sandals on their feet, alabaster vases, shrines—far too many things to examine, or even to see, all at once.



40. One of the guards of the burial chamber.  
Statue from Tut-ankh-Amen's tomb

Beyond this first room they discovered another, about thirteen feet by nine feet six inches, which was also crammed with objects—but it had been ransacked by the thieves who had broken in thousands of years before, and everything had been tossed about. Yet these mysterious thieves had gone away and left all these wonderful things behind. Were they looking for

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some particular thing which they failed to find? Or were they caught before they could take anything away?

For weeks Howard Carter and the experts who helped him worked in the tomb of Tut-ankh-Amen (for it *was* his tomb, of course). All the precious things had to be moved very carefully, packed, and taken to Cairo before an attempt could be made to open a door which stood between two black guardian statues at one end of the room. The great couches, with carved animals at the foot of each, were almost buried in precious weapons and ornaments. There were no less than four chariots completely covered with gold and decorated all over with embossed designs or with coloured designs made up of inlaid stones and glass.

At last the antechamber was clear, and thirty-four packing cases were taken carefully to the Nile and loaded on a barge that was waiting to take them to Cairo.

Then Carter turned his attention to the sealed door, beyond which lay the burial chamber which he and his helpers hardly dared to hope might be found, for the very first time, untouched by robbers.

When, about a hundred years before, Belzoni had wanted to get through a sealed door, he used a beam of wood as a battering ram. But the methods and ideas of archaeologists had changed completely since Belzoni's time. Howard Carter took infinite care in moving each stone that sealed up the doorway, for fear one might fall inwards and damage something. When he had made a small hole he thrust a torch into it and peered through. He found he was looking straight at a solid wall of gold!

Slowly and carefully he removed the rest of the stones, and the watchers could then see that the wall of gold was really one side of a gigantic shrine which almost filled the chamber in which it stood. The floor of the chamber was about two feet lower than the antechamber, and at last Carter was able to step down into the space, just over fifteen inches wide, between the wall and the shrine. He and Lord Carnarvon made their way carefully round the shrine and measured it. It

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was seventeen feet long by eleven feet nine inches high, covered all over with gold, and with panels on the sides of brilliant blue faience (glazed pottery).

At one end of the shrine there were folding doors, bolted but not sealed. Had the robbers managed to get in and damage the mummy? Carter drew the bolts. Inside was a second pair of doors, bolted and sealed, and after opening those Carter found that there was a second shrine inside the first, which he could see was untouched. No robber had penetrated as far as this. For the very first time they were going to find a Pharaoh of Ancient Egypt undisturbed, exactly as the priests had left him.

But not immediately. For the present Carter closed the two sets of folding doors and went to the other end of the burial chamber. And there, beyond a low door they found another small room. Facing the door was a chest or shrine covered with gold, with the statues of four beautiful goddesses surrounding it.

Unfortunately, only a few weeks after this Lord Carnarvon died, and it was not until January of 1925 that the next step could be taken. Then the brick wall between the antechamber and the burial chamber was taken down, and the golden shrine was carefully taken to pieces. Inside was the second shrine, like the first—and inside that there was a third, and within that even a fourth 'similar in design and even more brilliant in workmanship than the last'.

Carter wrote afterwards, 'with intense excitement I drew back the bolts of the last and unsealed doors; they slowly swung open and there, filling the entire area within . . . stood an immense yellow quartzite sarcophagus, intact, just as the pious hands had left it.'

The four shrines, which, between them, were made up of more than eighty parts, were carefully taken to pieces. Each part had had a number and sign painted on it, to guide the workmen of Ancient Egypt in putting the shrines together, and Carter was annoyed to find that they had been careless and had reversed some of the parts.

At last, with the shrines gone, Carter and his assistants

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could start the difficult task of lifting the rose granite lid, weighing over twelve hundredweight, on the sarcophagus. Inside were, first, linen coverings, and under them a coffin of which the lid was a golden effigy of the young king, with his hands crossed, and holding the royal emblems, the Crook and Flail. The face was of pure gold, as clean and bright as though it were new, and the eyes were of coloured stones and the brows of lapis lazuli.

Very slowly and carefully the coffin was removed and opened. Inside was a second coffin with another effigy of the king, and when at last that too was removed, came the greatest surprise of all. For within the second coffin was yet another—and that one was of solid gold.

The lid of the golden coffin was removed, and there lay the mummy of the king. Over its head and shoulders lay a golden mask—and under the head was a head-rest made of iron. In some ways that lump of iron was even more interesting and important than all the gold, for it was one of the earliest pieces of iron found in Egypt.

The only disappointment in the whole of this wonderful find was the fact that the body of the king, instead of being preserved, as it should have been, by the fluids which had been poured over it, had been ruined. The fluid had set into a hard mass, and only the face, which the fluid had not touched, was preserved.

As the wrappings were slowly and carefully removed, one hundred and forty-three pieces of jewellery were found among them.

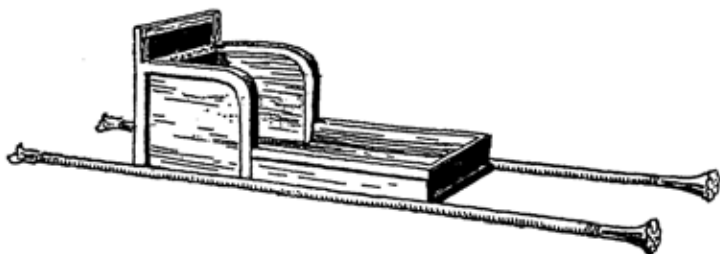
Tut-ankh-Amen was not a famous or a very important king. He was only about eighteen years old when he died. Yet all this fabulous amount of gold and jewellery, all these wonderful works of art and craftsmanship, were buried with him in his tomb. Few people to-day, except archaeologists and historians, would ever have heard of him, but for the strange accident that his tomb is one of the very few that have come down to us almost undisturbed, and absolutely the only one in which the coffins and the royal mummy were untouched.

## *The Treasure of Tut-ankh-Amen*

The finding of the tomb caused a great sensation all over the world, so that now most people know the name of this one boy Pharaoh of Egypt, even if they know no other.

If such wealth was buried with all the Pharaohs of Egypt, as it undoubtedly was, we cannot be surprised that the royal tombs were a constant temptation to gangs of robbers, and that archaeologists, when they have at last found their way into them, have so often been disappointed and have found them empty.

In 1925 an American archaeologist, Dr. Reisner, found an undisturbed tomb, but not in the Valley of the Kings. It was the tomb of a queen, the mother of Cheops, who built the



41. The carrying-chair belonging to Queen Hetep Heres

Great Pyramid, and she died and was buried about thirteen hundred years before Tut-ankh-Amen. Her tomb was at the bottom of a shaft ninety-nine feet deep near her son's Great Pyramid. The shaft had been completely blocked with stones, and no building had been erected on the surface. The sand had covered and completely hidden it.

Dr. Reisner found the rock-hewn burial chamber of the queen, and behind it a walled-up recess in which the queen's personal belongings had been stored. The wood of which some of them had been made had decayed and became a mass of powder, or else had shrunk to a sixth of its original size. But lying about all over the room were pieces of gold plate, and tiny figures in gold which had been inlaid in the wood and

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had made up inscriptions and patterns. They had fallen out as the wood decayed.

If this tomb had been discovered early in the nineteenth century, the golden scraps would simply have been gathered up, and no one would ever have known what the objects were like which they had decorated. But Dr. Reisner and his assistants cleared the chamber an inch at a time, carefully recording exactly where each fragment lay, and taking over a thousand photographs. The work took them two hundred and eighty days, but as a result of it, and with the help of a few shrunken pieces of the frames and panels, they were able to replace the ancient wood with new, and reconstruct a beautiful carrying chair, two armchairs, a bed, a jewel box, and other things which had belonged to the dead queen.

The things buried with Queen Hetep-heres (for that was her name) had not the enormous value of those buried in Tut-ankh-Amen's tomb, but they were even more beautiful because they were simple and refined, so that they make the later things look rather showy. The armchairs, the bed, the carrying chair, and a frame for a canopy were all partly encased in gold sheets. Inside the jewel case there had been twenty silver anklets, each one decorated with dragon-flies inlaid in malachite, lapis lazuli and carnelian. In a toilet box there had been eight small alabaster vases. There were gold implements for manicuring the nails, gold razors and knives, and several gold, alabaster and copper vessels.

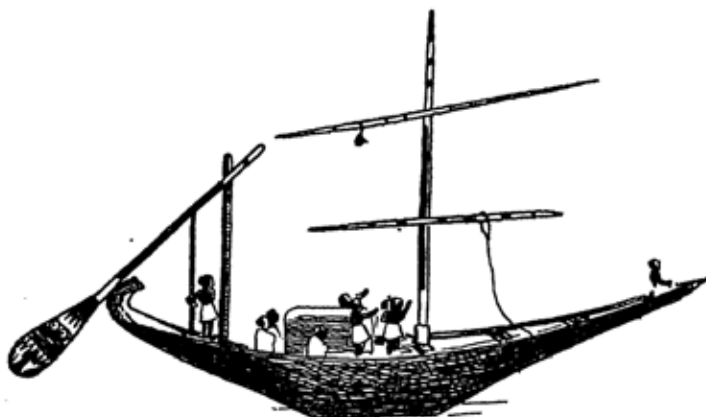
Yet, although the tomb had evidently never been found or disturbed, there was no mummy or mummy-case in the sarcophagus. Experts have suggested that the queen was first buried somewhere near her husband's pyramid, and that her son, Cheops, later decided to have a new tomb made for her near his own pyramid, where perhaps it could be protected more easily. Perhaps no one dared to tell him that robbers had already entered her tomb and taken away the mummy with its jewels and its golden mask, in its gilded coffins.

Excavation still goes on in Egypt, and wonderful discoveries continue to be made. Not long ago, also near the Great Pyra-

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mid, an American was making a film. A pile of rubble was in his way, and he asked if it could be taken away.

As the rubble disappeared, the young man who had been given the task of removing it by the Egyptian Civil Service, noticed that the rubble had hidden an ancient mud-cemented platform which did not look as though it had been made strong enough to support anything above it. Was it, perhaps, covering something? He investigated, and found, under the



42. Model of a boat from an Egyptian tomb

cement, two sets of forty-two large blocks of fine limestone carefully laid. He had a hole cut in one block and peered through. In the light of a torch he could see beams of wood and he could smell cedar wood.

A shed was built over one set of limestone blocks, and they were carefully removed. In a deep rectangular pit cut out of solid limestone lay a narrow wooden boat a hundred and fifteen feet long—and it is almost certain that its companion lies in a similar pit under the other set of blocks.

The boat has lain hidden in its pit for more than four thousand six hundred years. But why was it put there? Possibly it and its companion were the two boats which the Egyptians believed Cheops would need in order to accompany the sun

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on his daily journey across the sky and his nightly journey under the earth. Models and pictures of such boats have been found again and again in the tombs, but this is the first real boat of the kind ever to be discovered.

The boat will be very carefully removed from its pit, treated by experts in order to preserve it, and a special museum will be built to house it. In removing it, who knows what else the archaeologists may find, to throw yet more light on Egypt's long and mysterious story?



## CHAPTER XI

# *Lost Cities and Forgotten Languages*

**N**orth and east of Egypt, in the area between the two great rivers Tigris and Euphrates which was once known as Mesopotamia but is now called Iraq, there are no such exciting remains for travellers to see as there are in Egypt. Yet here, too, great and powerful nations flourished long before the birth of Christ.

The Babylonians and the Assyrians each at different times were masters of great empires, and the names of a few of their mightiest kings and their greatest cities have come down to us through the Bible, through the writings of the Ancient Greeks and Romans, and through legends. Yet at the beginning of the nineteenth century no one knew for certain where mighty Nineveh had stood, or Babylon, or the city in which the Bible tells us Abraham was born, Ur-of-the-Chaldees.

Here and there vast mounds of dust and earth, or groups of such mounts, rose from the flat plains. Sometimes, too, tablets of baked clay were found, on which curious patterns or inscriptions had been pressed with a wedge-shaped implement, so that they looked as though birds had walked over them while they were still soft.

A tradition had survived that a large group of mounds in the north of the country, east of the River Tigris and opposite to the modern city of Mosul, covered the ancient city of Nineveh, which was once the capital of Assyria, and that another great mound on the Euphrates, some miles south of

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Baghdad, hid the ruins of Babylon—but no one could be certain that these traditions were true.

The first person to take any real interest in the mounds was an Englishman named Claudius James Rich. He lived in Baghdad during the early part of the nineteenth century, as Agent for the East India Company. Mesopotamia was then under the domination of Turkey. Rich spent his leisure time visiting, surveying and examining the different sites, and collecting any old or curious things that interested him.



43. Mounds concealing a ruined city in Mesopotamia

One day, when he was in Mosul, some Arabs told him that a piece of sculpture representing men and animals had been dug up from among the mounds on the other side of the Tigris a little while before, but the local Mohammedan priest had declared that the figures represented heathen gods, and had given orders that the sculpture should be destroyed. Not the smallest fragment remained. Although Rich visited the mounds and hunted about, he could not find anything except a few clay tablets and pieces of pottery. Nevertheless, he felt sure that the mounds stood on the site of the city of Nineveh.

The tablets, and other things such as coins and ancient manuscripts, which Rich collected in Mesopotamia were sent to the British Museum when he died in 1820, and for a long

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time they were almost the only relics from Mesopotamia to be seen anywhere in Europe.

The first person actually to excavate in Mesopotamia was Paul Émile Botta, who was French Consul at Mosul. In 1842 he began to dig into one of the large mounds opposite Mosul, a mound called Kouyunjik. He did not find anything very interesting, but one day an Arab who was watching Botta and his workmen exclaimed that if they really thought it worth while to dig for broken bits of brick with marks on them which no one could understand they had better come to *his* village, where they could hardly drive a spade into the ground without finding such things, and sculptured stones as well.

The Arab's village was fourteen miles farther north, and was called Khorsabad. Botta sent some of his workmen to the place, and they sunk a shaft into the ground. Almost immediately they came upon a wall, and on clearing away more of the earth from it they found it was lined with slabs of stone on which figures and animals were carved. They had never seen anything like this before, and they rushed back in great excitement to Botta. He abandoned Kouyunjik and hurried to Khorsabad.

Before long Botta had unearthed more than a hundred rooms, halls and corridors of a mighty palace, and had found nearly all the walls richly decorated with bas-reliefs quite unlike anything known up to that time.

Botta was convinced that *here* was the true site of Nineveh, but we know now that what he had really found was a palace built by an Assyrian king named Sargon II, who had ruled from 722-705 B.C. It had stood in the centre of the north-east wall of a great city with seven gates which Sargon had laid out, and which he intended should be a new capital of Assyria.

The palace had originally been destroyed by fire, and the weakened slabs of stone which lined the great halls and corridors soon began to crumble away when they were exposed to the air. Botta set to work to make drawings of the sculptures as quickly as he could. The French Government, who were

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tremendously impressed by Botta's find, sent an artist named Flandin to help him.

Botta worked under great difficulties in Mesopotamia, for he, and the archaeologists who followed him, had constant trouble with the Turkish officials. The Pasha, or ruler, felt certain that Botta and his assistants must be searching for treasure, and were perhaps finding it and smuggling it away. So he kept interfering. Sometimes he took Botta's workmen away from him; sometimes he allowed them to work, but threatened them with dreadful penalties if they did not tell him Botta's 'secret'.



44. Cuneiform writing

Like Belzoni and others in Egypt, Botta wanted to send home to Europe as many of the wonderful things he had found as he possibly could. He managed to load some of the best preserved of the sculptured slabs on to rafts. But in this northern part of Mesopotamia the Tigris is rapid and rough. The rafts were overturned, and the precious sculptures which had been hidden for so long were again lost. However, Botta tried again, and did manage to send the second lot safely down the river and over the sea to France, where they can still be seen in the Louvre in Paris.

By degrees Botta (and other archaeologists years later) excavated the palace and the town. The palace was immense, with about two hundred lofty rooms surrounding a large

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number of courts. It had been built on a platform of bricks which covered an area of twenty-five acres, and which raised it about sixty-five feet above the town. On either side of many of the entrances there were immense lions or bulls, and on the inner walls there were two miles of sculptured slabs.

Besides the reliefs, which showed kings, gods and soldiers taking part in sieges, battles and religious ceremonies, Botta found large portions of wall covered with inscriptions in the peculiar writing which had been done by pressing a wedge-shaped implement into soft clay, or cutting the wedge-shapes out of stone. We call this kind of writing 'cuneiform', from the Latin word *cuneus*, which means a wedge, and at that time no one could read it.

Scholars had been puzzling over the cuneiform inscriptions for years before Botta began excavating at Khorsabad. Some of the earliest examples to reach Europe were copied from some ruins in Persia which had been identified as the ancient city of Persepolis. Scholars who examined these inscriptions believed that, in many cases, the same announcement was repeated three times, in three different languages, and they thought that one of the languages was probably Old Persian.

You remember that the inscription on the Rosetta stone was written in three different ways, but one of the inscriptions was in Greek, and was written in the Greek alphabet, which scholars knew. But the cuneiform inscriptions were all written in cuneiform, which no one alive knew anything about.

One of the strangest facts in the story of archaeology is that as early as 1802 someone *did* succeed in discovering the meaning of about a third of the signs in the Old Persian section of some inscriptions from Persepolis, but his work was not recognized and appreciated until many years later—by which time others had done the work all over again.

This early interpreter was named George Grotefend, and he was a German teacher with a knowledge of Eastern languages. He found that the simplest of the three kinds of cuneiform writing, which he thought might be in Old Persian, contained only forty different groups of signs, so he decided

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that it must be alphabetical—that is, each group of signs must stand for a sound (just as the letters of our alphabet do), and not for a whole word.

Certain of the groups of signs occurred together again and again, and Grotefend thought it possible that they stood for the letters spelling out the Persian word for king. By taking the names of three famous kings of Persia—Xerxes, Darius and Hystaspes—and attaching them to the signs for 'king', he gradually learnt to read eleven different letters. But when he wrote an essay on the subject the Göttingen Academy, to which he sent it, refused to publish it—so few people knew what he had done.



45. Darius and vanquished foes carved on the rock of Behistun

Botta and other excavators found a great many inscribed tablets as time went on, but scholars wanted a very much larger piece of writing to work on before they could get very far. Such a piece of cuneiform writing did exist—a long inscription carved into the face of a great cliff at a place called Behistun in Persia. The inscription was in columns surrounding carvings in relief of a king with his foot on a defeated foe, and facing a line of bound captives. There were over a thousand lines of the cuneiform script, and they, too, seemed to be in three languages. But the inscription was very difficult to see properly, and even more difficult to copy, for it was four hundred feet above the ground, and the seventeen-hundred-

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foot-high rock on which it was carved rose straight up from the plain, and was very difficult to climb.

It was an Englishman named Henry Creswicke Rawlinson who managed to copy the inscription at last. He was a soldier who had studied Oriental languages, and had become keenly interested in cuneiform writing. Like Grotefend, he learned to read some of the signs in the Old Persian parts of the inscriptions. When he was stationed in Persia he was naturally attracted to the great rock at Behistun. Again and again, during 1836 and 1837, he climbed the bare, slippery rock and stood below the great inscription, carefully copying as much of it as he could make out.

Then in 1838 a war broke out and Rawlinson was sent away from Persia. It was not until 1844 that he was able to get back to Behistun and go on with the work. He copied the greater part of two inscriptions (which later turned out to be in Persian and Elamite) but the parts which were later found to be in the Babylonian language were absolutely out of reach.

Rawlinson, and other scholars in Europe, worked away with the material they had, and before long several of them were able to read the whole of the section in Old Persian. The great inscription, they found, had been engraved on the rock by order of Darius of Persia in 516 B.C., in Persian, Babylonian and Elamite, and it recorded the triumphs of his reign, and the way in which he had overcome his enemies and those who had revolted against him. The ancient road from the Persian city of Hamadan to Babylon ran past the rock, so all the many travellers who passed that way two thousand five hundred years ago could read how mighty a king Darius was—and how dangerous it was to oppose him.

If scholars were ever to master the Babylonian inscription, it was absolutely necessary for them to have an accurate copy. So in 1847 Rawlinson returned to Behistun again, this time with ropes, ladders, hammers and wooden pegs, and with some local people to help him. He tells us himself how a copy of the Babylonian inscription was obtained.

'At length, however, a wild Kurdish boy, who had come

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from a distance, volunteered to make the attempt, and I promised him a considerable award if he succeeded. The mass of rock in question is scarped, so that it cannot be approached by any of the ordinary means of climbing. The boy's first move was to squeeze himself up a cleft in the rock a short distance to the left of the projecting mass. When he had ascended some distance above it, he drove a wooden peg firmly into the cleft, fastened a rope to this, and then endeavoured to swing himself across to another cleft at some distance on the other side; but in this he failed owing to the projection of the rock. It then only remained for him to cross over the



46. A cylinder seal and the impression made by it on clay

cleft by hanging on by his toes and fingers to the slight inequalities on the bare face of the precipice, and in this he succeeded, passing over a distance of twenty feet of almost smooth perpendicular rock in a manner which to a looker-on appeared quite miraculous. When he reached the second cleft, the real difficulties were over. He had brought a rope with him attached to the first peg, and now, driving in a second, he was able to swing himself right over the projecting mass of rock. Here with a short ladder he formed a swinging seat, like a painter's cradle, and, fixed upon this seat, he took under my direction the paper cast of the Babylonian translation of the records of Darius.'

Years of work followed, for the Babylonian inscription was far more complicated, and had a far larger number of separate



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groups of signs, than the Old Persian, and it was in a completely unknown language. Nevertheless, in time the apparently impossible task was done, and a number of scholars declared that they could read cuneiform inscriptions written in the Babylonian language.

In 1857 Rawlinson translated a Babylonian inscription on a clay cylinder. Before publishing it the Royal Asiatic Society had copies of the inscription sent to three other scholars, and asked each one of them to translate it also. The four separate translations were studied by a committee, and they were found to be so much alike that there was now no doubt at all that Babylonian could be read, and that the key to the ancient inscriptions in Mesopotamia had been found.

## CHAPTER XII

### *Palaces from the Dust*

Long before scholars had learnt to read cuneiform, other men besides Botta had been fascinated by the idea of excavating in Mesopotamia.

One of these was an adventurous young Englishman named Austen Henry Layard. He started out from England in 1839 in order to join an uncle in Ceylon. He wanted to see as much of the world as he could, so he travelled overland, which in those days meant doing a great part of the journey on horse-back. He lingered in the Middle East, and there faced all kinds of dangers and difficulties. Several times he was attacked by bands of robbers, and arrived at such places as Damascus and Baghdad in rags and almost starving.

In Mesopotamia Layard met Botta, who was then excavating the great palace of Sargon II at Khorsabad, and Layard tells us himself in one of his books what a tremendous impression the huge mounds of Mesopotamia made upon him.

Layard never reached Ceylon, for before long he was himself excavating at a mound about twenty miles south of Mosul which the Arabs called Nimrud, because they believed that the city which they thought had stood there had been built by Nimrod, the 'mighty hunter' who is mentioned in the 10th chapter of Genesis.

When Layard started excavating Nimrud, Mosul was governed by a cruel and tyrannical Pasha against whom the Arabs were revolting. The country was very unsettled, and was dangerous for foreigners. But Layard was lucky enough to gain the friendship of a local sheik who controlled the

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country round the mound, and he supplied Layard with workmen.

Layard set two groups, each of three men, working at two widely separated spots on the principal mound. By the end of the first day both groups had uncovered chambers lined with alabaster slabs covered with cuneiform inscriptions. By extraordinary luck Layard had discovered two of the greatest palaces ever built by Assyrian kings.



47. A sculptured panel from Assyria

With more workmen, Layard discovered walls lined with wonderful sculptured stones showing men fighting, hunting, riding in chariots, slaying lions, besieging castles, and taking tributes from defeated enemies. Nowadays we can see such sculptures in museums all over Europe, and photographs of them in many books, but in Layard's time they were quite unknown, and nothing like them had ever been seen before, except by Botta two years earlier.

No wonder Layard was excited and worked feverishly to dig out the sculptured slabs and send them to England. But rumours about his activities had reached the ears of the Pasha at Mosul, and he, of course, was convinced Layard was digging

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for treasure. He sent a message forbidding Layard to dig any more.

Layard rode into Mosul to protest, and the Pasha assured him that the reason he had stopped the digging was that the mound had been used as a Mohammedan burying ground, and his work was offending the faithful. They might rise against the foreigner—and the Pasha would not be able to protect



48. A winged, human-headed lion from Nimrud

him. But before long Layard discovered that the Mohammedan gravestones had been placed on the mound by order of the Pasha himself, and the whole story was a trick to stop Layard's investigations.

Soon after this the Pasha was recalled by the Turkish Government in order to answer for his many misdeeds, and Layard was able to start work again.

One day some of Layard's workmen rushed up to him,

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excited and terrified, and cried out that they had found Nimrod, the mighty hunter, himself.

Layard hurried to the spot, and gazed at an enormous human head carved out of alabaster. The lower part of the figure was still concealed. The excited Arabs insisted on having a feast to celebrate the discovery of 'Nimrod', and spent half the night dancing and singing.

When Layard had the earth cleared from the rest of the figure, it turned out to be that of a huge lion, with wings and a human head. As the excavations went on, thirteen pairs of such winged lions and bulls were discovered, for the spot where Layard was digging concealed a great palace which it was later discovered (when the inscriptions could be read) had been built by a king named Ashur-nasir-pal II, who had ruled Assyria from 883-759 B.C.

Many of the fine sculptured friezes from Ashur-nasir-pal's palace had already been shipped to England. Now Layard started the infinitely more difficult task of removing a pair of the immensely heavy winged figures. A trench had first to be dug, and the creatures then had to be dragged out over rollers. No cart existed strong enough to carry the heavy figure, and there was no wood in the district, so Layard had to send a man to the mountains to cut down the largest mulberry tree he could find. Then a cart had to be made, and Layard tells us that each wheel was nearly a foot thick, and consisted of three solid pieces of wood bound together with iron.

With great difficulty each figure in its turn was loaded on to the cart and, because the buffaloes harnessed to the cart refused to pull, three hundred men dragged it to the river bank, sometimes getting bogged down on the way. The great figures then had to be loaded on rafts and floated six hundred miles down the Tigris to Basra on the Persian Gulf.

At last all the difficulties were overcome, and the mighty figures reached London where, after being hidden from view for two thousand years, they now stand in the British Museum for anyone to see.

In the palace from which they came, these figures, in pairs,

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formed the entrances to the rooms and courts, and besides bulls and lions there were winged humans and creatures with the heads of eagles.

One of the Assyrian kings wrote a description of one of his palaces, and in it he tells us: 'I placed in its gates bulls and colossi, who, according to their fixed command, against the wicked turn themselves; they protect the footsteps, making peace to be upon the path of the king their creator.'

Layard wrote a fascinating book about the mound at Nimrud. He called his book *Nineveh and its Remains* for he believed that it was Nineveh he had discovered—just as Botta believed that he had discovered Nineveh at Khorsabad. Now we know that neither of them was right, and that Nineveh really lay under the mounds opposite Mosul, where Rich had said it was, and where Botta had first started to dig.

Nimrud was the city which, in the Bible, is called Calah. It was the second capital of Assyria, after Ashur, which was the first, and before Nineveh. In the days of its greatness, the Tigris flowed against the walls of Calah, though the river now flows past half a mile away.

The palaces Layard found at Nimrud, like the one Botta found at Khorsabad, were built on huge brick platforms. Both Botta and Layard, in cutting a trench into a conical mound on the palace platform, found that they were digging into a solid mass of mud brick. They did not know then what they had found, but the more thorough investigations of later archaeologists have taught us that these solid structures were the remains of temples, or ziggurats, as they are called, and that there was at least one in each city. In large or important places there might be two or three.

Ziggurats were huge buildings placed one upon another, each one being smaller than the one beneath. On the platform on the very top was a shrine—a kind of earthly abode for the sun-god to rest in. There were no rooms or corridors inside the buildings which made up the ziggurat, but sloping ways on the outside led up from one level to another, so that the priests could reach the different terraces, and the 'High Place'

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or shrine on the summit. It is believed that the ziggurats were intended to represent hills, and that it is possible that trees and shrubs were planted on the different stages in order to make them look as much like natural hills as possible.

Altogether Layard found the remains of three great palaces hidden under different parts of the mound of Calah. The first was built by King Ashur-nasir-pal II. Of the other two, one was built by his son, Shalmaneser III (about 858-824 B.C.) and the other some hundred and fifty years later by Esarhaddon (about 680-669 B.C.).

In Shalmaneser III's palace a wonderful monument was found which is called the 'Black Obelisk of Shalmaneser III'. You can see it for yourself in the British Museum. It has four sides, on each of which there are five bands of sculpture, and some inscriptions which describe the king's expeditions and triumphs. The sculptured scenes show the conquered kings paying tribute, and what made the obelisk especially interesting to European people is the fact that one of these scenes represents a king whose name was known to them from the Bible—Jehu, King of Israel. He is shown bringing bowls, dishes and other vessels of gold and silver.

For the first time something had been found in Mesopotamia which linked the Assyrian sculptures with the records in the Old Testament.

In addition to sculptured slabs Layard found many smaller objects at Nimrud, such as copper helmets, iron armour, and objects made of glass, ivory and alabaster. But one of the tragedies of these early excavations in Mesopotamia is that men had not acquired the skill and knowledge which is now, after a hundred years of experience, possessed by modern archaeologists. They simply dug down until they found a wall, then cleared the face of it and removed any sculptures worth taking.

They did not know how to preserve intact anything fragile or partly decayed, and a great deal of interesting material was lost. Again and again in Layard's book there are descriptions of valuable or beautiful or interesting things—followed by a

49.  
The Black Obelisk  
of Shalmaneser III



50. Jehu, King of Israel, paying tribute to Shalmaneser



## *Palaces From the Dust*

phrase telling us that they 'fell to pieces on exposure to the air', or that Layard was unable to preserve them because they were in so decomposed a state.

In 1849 Layard began excavating at Kouyunjik, the mound opposite Mosul, where Botta had worked without finding very much. Layard was luckier. He dug a shaft down until he came to brick, then made tunnels in different directions. Very soon he found an entrance guarded by two immense bulls, with, on either side of them, four more bulls along what had been the front of a building. Inside were the halls and chambers of another great palace—one which had been built by the Assyrian king who had made Nineveh the capital of his empire, King Sennacherib (705-681 B.C.).

On some of the inner walls of the palace there were wonderful sculptured friezes; other walls were coloured blue and had inscriptions on them in white; yet others were of glazed brick. There were records of Sennacherib's conquests, for his reign, like those of most of Assyria's kings, was one long series of wars against all the countries surrounding him.

One very important series of bas-reliefs illustrated the war between Sennacherib of Assyria and Hezekiah of Judah—a war which is also described in the Bible, where we are told that the prophet Isaiah prophesied that the king of Assyria would not enter Jerusalem. The prophecy was fulfilled, for the plague attacked Sennacherib's army outside Jerusalem, and thousands of men died.

But one of the most wonderful and important things found in Nineveh by Layard and those who continued to excavate there after he left was a 'library' of clay tablets. Two small rooms were found



51. A clay cylinder on which accounts of Sennacherib's triumphs are inscribed

## *Palaces From the Dust*

which were a foot deep in tablets and six-, eight-, or ten-sided cylinders of clay, all covered with cuneiform writing. Some of the tablets were whole, but most of them were in fragments.

When it was possible to examine the tablets properly, and to read them, it was discovered that they had belonged to the Temple of Nebo in Nineveh. Later a Mr. Hormuzd Rassam found more tablets among the ruins of another palace, which had been built at Nineveh by Sennacherib's grandson. His name was Ashur-bani-pal, and he seems to have been studious and thoughtful and to have loved peace. He sent his agents about the country to collect all the ancient tablets they could find.

One agent was sent to Babylon, and the letter of instruction which Ashur-bani-pal sent to him has survived. The king wrote: 'Seek out and bring me the precious tablets for which there are no transcripts extant in Assyria. I have just now written to the temple overseer and the Mayor of Borsippa that you, Shadann, are to keep the tablets in your storehouse, and that nobody shall refuse to hand over tablets to you. If you hear of any tablet or ritualistic text that is suitable for the palace, seek it out, secure it, and send it here.'

Probably Ashur-bani-pal had the tablets copied, for he seems to have employed a large number of writers and scholars. In his library he collected together all the knowledge and learning of his day, and among the tablets there were medical works, books about the stars, about mathematics, religion, history and all manner of other subjects.

The king tells us that he himself 'understood the wisdom of Nebo, all the art of writing of every craftsman, of every kind, I made myself master of them all'.

This probably means that he could read the various kinds of cuneiform writing that appear on the tablets (just as a student of to-day might be able to read the kind of writing used in Britain before the Norman Conquest), and that he understood the dead and living languages of Sumer, Akkad, Babylonia and Assyria in which they were written (just as some people to-day can read Greek and Latin as well as French and German).

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Some of the most useful tablets found in Ashur-bani-pal's palace were 'dictionaries' which had been written to help students of the seventh century B.C. to read tablets which had been written a thousand or two thousand years before their time. You can imagine how valuable these dictionaries and lists of words were to the students of the nineteenth century who were only just learning how to read cuneiform at all.

Of course, the tablets at Nineveh could not be read at once. The archaeologist who digs things out of the ground does something very important indeed, because he supplies the material from which others can learn. But the work of arranging, comparing, reading and translating is often done by men who are far away from the spot where the things were found, perhaps in universities and museums.

The twenty-five thousand or more tablets which were found at Nineveh were packed up and sent to the British Museum in London, and for years men worked on them, piecing the broken fragments together and translating them. In time they learnt more about the history of ancient Assyria and Babylonia and the surrounding countries than anyone had ever known before.

## CHAPTER XIII

# *The Lands between the Two Rivers*

**B**efore going on to read about the later discoveries that were made in Mesopotamia, it may be a good idea to hear something of the story which the inscriptions and tablets told us.

If you look at a map showing the land which is now called Iraq, you will see that the rivers Tigris and Euphrates rise in the mountains of Turkey and flow south-eastwards through Iraq until they join about fifty miles north of Basra, and flow out together into the Persian Gulf.

Conditions were very different thousands of years ago. The flat, level plain through which the rivers flow for the last four hundred miles of their course has only gradually been formed. It is made up of soil brought down and deposited by the rivers themselves.

If on your map you find a place called Nasiriya on the Euphrates, and another called Amara on the Tigris, and join them with an imaginary line, you will have a rough idea of the position of the coastline about 1000 B.C. Then if you find the towns of Hit on the Euphrates and Balad on the Tigris, about two hundred and fifty miles farther inland, and join them with another imaginary line, you will have the position of the coast three thousand years earlier still.

The flat plain between your two imaginary lines was the area occupied by ancient Babylonia, and the hilly country north of the second line, and between it and the present

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northern boundary of Iraq, was the area of ancient Assyria.

The flat land which was later to become Babylonia only gradually became dry enough for human beings to settle on it. For centuries it must have been a muddy swamp from which islands of drier land gradually emerged. On these areas people who probably came from the mountains to the east (from the land which was later to be Persia) appear to have settled from about 4000 B.C. onwards, and formed villages which in time developed into towns and then into city-states. Each city-state had its governor, or priest-king, and was surrounded by its subject villages and farms.

The people who settled in the southern part of this flat area became known as the Sumerians. They were very wonderful people indeed, and created the civilization which, later, developed into those of Babylonia and Assyria. They drained the marshy lands, dug canals, built cities, invented cuneiform writing, made laws, and built temples to their gods. Two of their principal cities were Eridu and Nippur. Eridu was a sea-port, though now the spot where it stood is a hundred miles or more from the sea. The Sumerians believed that it was the oldest of all their cities.

People belonging to a race which we call Semitic settled on the great land north of Sumer, forming in time the kingdom of Akkad. About 2360 B.C. Sargon of Akkad conquered the Sumerians and made himself king of the whole country. He and his son invaded surrounding countries, such as Elam on the east and Syria on the west, and their dynasty lasted for about a hundred years.

After it collapsed the priest-kings of such Sumerian city-states as Ur, Erech and Lagash from time to time gained power and ruled over the whole country, until each one in turn was overthrown. Then, about 1792 B.C., a very great man indeed, Hammurabi of Babylon, not only managed to unite Sumer and Akkad under his rule, but in time made himself master of all the lands between the Persian Gulf and the Mediterranean.

Hammurabi was a wise ruler as well as a great conqueror.



52. A map of Mesopotamia in ancient times

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He had a code of laws (some of which had already been thought out by the Sumerians a thousand or so years earlier) inscribed on a column of hard stone called diorite and set up in the temple of Marduk at Babylon. Anyone could read what the laws of the land were, and the penalties for breaking them. Centuries later the slab of diorite was carried away to their capital, Susa, by the Elamites when they invaded Babylonia. It was found again by archaeologists more than two thousand years later still. Part of the slab had been smoothed and the cuneiform writing obliterated (probably to make room for an inscription in honour of the Elamite king, which was never written) but two hundred and eighty-two of Hammurabi's original laws are still visible. The original stone is now in the Louvre.



53. Hammurabi's Code  
of Laws

For many centuries Hammurabi's code of laws influenced the way in which people in the Middle East lived and were governed. Among tablets found in Ashur-bani-pal's palace were some on which were copies of these laws, although Hammurabi had then been dead for fifteen hundred years. Even some of the rules and customs which we read about in the Bible were based on Hammurabi's code of laws.

From the various races inhabiting the countries which had been Sumer and Akkad there developed in time the Babylonian nation and the Babylonian language. Sumer and Akkad, as separate nations, disappeared, though for a very long time Sumerian was the language of religion—just as many centuries later, in Europe, Latin continued to be the language

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of the Church long after it had become a 'dead' language.

From that time onwards, Babylonia was sometimes master of the surrounding countries, while at other times revolts, war and invasions reduced her to weakness. The city of Babylon itself became the capital of the whole country, and its god, Marduk, the Sun-god, was recognized as the supreme lord over all the other gods of Babylonia.

Babylon became the 'Holy City' of the civilized peoples of Asia, and the language and culture of western Asia became thoroughly Babylonian. You remember that the clay tablets found at Tell-el-Amarna in Egypt proved that in the fourteenth century B.C. even the Egyptians, when writing to foreign nations, or to their own representatives abroad, used the cuneiform script of Babylon.

During the fifteenth century B.C. a nation of which we still know very little, the Hittites, swept down over Syria and invaded Babylonia. The Hittite Empire was a large and powerful one and, while its greatness lasted, its ancient capital, Hattosos, was one of the chief cities of the civilized world.

One very important fact about the Hittites is that they were the first people to produce iron implements and weapons in any quantity—although iron had been known and used occasionally for a thousand years or more before their time. The Hittites traded iron goods with their neighbours in Asia Minor and gradually, as we have seen, iron took the place of bronze, and iron-using people spread not only over Asia, but over Europe also.

The Hittite capital city, Hattosos, was sacked about 1200 B.C., probably by barbarian tribes sweeping down from the north. The Hittite empire collapsed and in time almost completely disappeared from human memory. Gradually it is being rescued from the past by the efforts of archaeologists.

In the hilly land north of the flat plain of Babylonia lay Assyria, which for centuries was a province of the Babylonian Empire. The capital city, at first, was Ashur on the Tigris. The Assyrians were traders, and the task of keeping the trade routes open against the attacks of wild tribes from the moun-



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tains made them good fighters. In time they became independent of Babylonia, and in the thirteenth century B.C. the king of Assyria took the sacred city of Babylon and had himself crowned king there. Assyria then became the ruling power in Mesopotamia.

Everywhere the name of Assyria was feared and hated. Under one of the cruellest of the Assyrian kings, Ashur-nasir-pal II (883-859 B.C.) whose palace Layard discovered at Nimrud, Assyrian soldiers raided and plundered and carried ruin everywhere. Under his son, Shalmaneser III (about 858-824 B.C.), Assyrian soldiers gained control of the Phoenician cities on the coast, and, as we have seen, Jehu of Israel had to pay tribute. The fact was recorded on the 'Black Obelisk' which Layard found. Syria, too, was conquered.

During the centuries that followed Assyria had set-backs and gained or lost provinces from time to time. In 722 B.C. Israel was overrun and its capital, Samaria, destroyed. Babylonia gained its freedom, only to be overwhelmed again by a king of Assyria who called himself Sargon II (722-705 B.C.) and had himself crowned in Babylon in 709 B.C. His son was the Sennacherib (705-681 B.C.) we read of in the Bible, who invaded Judah and threatened Jerusalem, but had to retreat because of a pestilence. After a battle with rebellious Babylonians, Sennacherib took the holy city of Babylon itself and completely destroyed it—to the great indignation of all the peoples of western Asia.

Sennacherib's son, Esarhaddon (681-668 B.C.), rebuilt Babylon, and recalled the priests of Marduk, who crowned him king there. Babylon became a place of importance again, the second city of the Assyrian Empire after Nineveh (which was now the capital). Egypt was conquered in 674 B.C. and became an Assyrian province.

By this time the only kingdom in the civilized world of western Asia to remain independent was Elam, the country to the east of Babylonia. All the rest had been absorbed by Assyria.

After Esarhaddon's death his empire was divided between

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his two sons. One received Babylon, and the other, who received the rest of the empire, was King Ashur-bani-pal. He was the king who collected at Nineveh the library of clay tablets which were to be found two and a half thousand years later, and were to tell us so much about the things that happened all that long time ago.

During Ashur-bani-pal's reign, the Babylonians, under his brother, revolted, and the Elamites helped them. The revolt was crushed, Elam was invaded, its capital, Susa, was destroyed, and the land was laid waste.

But Assyria had passed the limit of her greatness. Soon Egypt was lost, and hordes of barbarians swept down from the north and sacked the Assyrian cities. When Ashur-bani-pal died the Assyrian Empire was collapsing. His successor was the last Assyrian king, and under him, in 606 B.C., Nineveh was besieged and taken by a king of Media, and the Assyrian Empire was divided between the Babylonians and the Medes.

Babylon again became the greatest city in the civilized world and under Nebuchadnezzar it was rebuilt and fortified. Nebuchadnezzar ruled the second Babylonian Empire for forty-three years. It was during his reign that certain events we read about in the Bible happened. Judah was invaded, Jerusalem and the Temple were destroyed, and the Jews were taken into captivity to Babylon.

By the time Nebuchadnezzar died a new power was arising. The people who had settled in deserted Elam after the Assyrians destroyed it were the Persians. One of the Persian princes, Cyrus II, overthrew one country after another, and finally, in 538 B.C., he invaded Babylonia, and the last king, Nabonidus, surrendered.

It was Cyrus, King of Persia, who allowed the Jews to return to Jerusalem and to rebuild their Temple.

Cyrus and his successors, Cambyses and Darius, continued their conquests, adding Egypt to their empire, until, at last, they controlled all the ancient nations of the Middle East. It was Darius, you remember, who had an account of his triumphs inscribed on the great rock at Behistun, never gues-

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sing that it would enable scholars more than two thousand years later to read languages which were familiar in his day, but which, later, were to be completely forgotten.

The Persians at last came up against the Greeks in Europe, and what happened then—how the Persian Empire fell before Alexander the Great—we can read about in books which have survived. These events have become part of history.

## CHAPTER XIV

### *Legend and Story*

**T**he tablets and inscriptions which told us so much about the long-dead kings of Babylonia and Assyria and their conquests, and about the rise and fall of forgotten empires, also told us a great deal about the religious beliefs and superstitions of the people.

One of the scholars who worked on the tablets in the British Museum was named George Smith. In 1871 he published a history of the reign of Ashur-bani-pal of Assyria which he had transcribed from the cuneiform inscriptions on the tablets.

But soon after that he discovered something very much more surprising. Among the broken clay tablets from Nineveh was a fragment on which he read something about a ship which had rested on 'the mountains of Nizur', and about a man in the ship who had sent forth a dove, which could not find any resting place, and so returned to the ship.

Of course, George Smith realized that he must have discovered an Assyrian version of the story we have all read in the Bible—the story of Noah and the Ark and the Flood.

Smith began hunting for the rest of the tablet. He found a few more fragments, and a whole series of tablets telling a long story which he was able to piece together to a great extent. It was the story of a king named Gilgamesh who had set out from a city called Erech in Sumer, and had had all kinds of adventures with ogres and other magic creatures. Finally he had managed to find his way to a place where one of his ancestors, who had become immortal, was living.

It was this ancestor, Uta-napishtim, who told him that

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centuries before, when he lived at Shurippak on the Euphrates, the gods had decided to send a great flood upon the earth in order to destroy mankind. One of the gods warned Uta-napishtim, and told him to build a ship. This he did, and when it was ready he and his family, with their belongings and their animals, went on board. Next day a great tempest arose, and the rain poured down. The tempest lasted for six days



54. Tablets telling the story of Gilgamesh and the Deluge

and nights, until all the land was covered with water. The ship drifted over the water until it came to rest on a mountain. Then Uta-napishtim sent forth a dove, which returned to the ship, then a swallow, which also came back, then a raven, which did not return. It had found a resting place, for the waters were sinking. Soon the people in the ship were able to come out on to dry land again.

This story, which was so like the one in the Bible, caused a great deal of interest and excitement when George Smith published it. The flood part of the story appeared on the eleventh tablet of the series—but part of this tablet was still missing.

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The *Daily Telegraph* gave £1,000 to pay for Smith to go to Nineveh and search for the missing fragment. What an impossible task it must have seemed! Yet by an extraordinary stroke of luck, Smith found the missing piece only five days after he started hunting at Nineveh.

It was clear from the tablets that the story of Gilgamesh had been copied from a very much earlier source, and Smith and other experts believed that it had probably been first written in Erech itself, in Sumer, in very early times indeed, and in the Sumerian language.

The Sumerians, and those who came after them in Mesopotamia, evidently believed in the truth of the story of the flood. Among the tablets which archaeologists found from time to time were lists of kings, going back to very remote times indeed. After a few names there was a break in the lists, and the statement, 'The Flood came. After the Flood came, kingship again was sent down from on high.' Then the list of names continued.

Was the whole story of Gilgamesh and Uta-Napishtim, with its gods, its ogres, its strange beasts and its flood all pure invention, or was the part of the story relating to the flood a record of some disaster which had really happened? No one could answer that question at the time, but a possible answer has been found since, as a result of the work of later archaeologists.

During the rest of the nineteenth century archaeologists continued to excavate sites all over Mesopotamia, and found many more temples, palaces and ancient cities which they were gradually able to identify. They found thousands of tablets which, like the papyri of Egypt, told them, not only about the history of the country, but something about the characters of the men and women who lived in that part of the world all those thousands of years ago, what their lives were like, and how they were governed.

Sometimes tablets were found quite accidentally. One set, consisting of several hundreds, was found by some Arabs, and like those buried at Tell el Amarna in Egypt, they had been

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stored away in earthenware jars. The tablets turned out to be the records kept by a great banking family of ancient Babylonia named Egibu, which had carried on business for hundreds of years and had arranged contracts, loans and the buying and selling of all kinds of goods. They collected the taxes which the government placed on crops, and the tolls which were charged for the use of roads and canals. Altogether their records give us an immense amount of information about the way in which the country was governed in their day.

Another interesting little discovery was made at a place in southern Mesopotamia which was identified as Sippar, where there was a temple dedicated to the god, Shamash. Here, too, there was a large collection of tablets, and on one of them it was recorded that King Nabonidus, the last king of the second Babylonian Empire, wanted to know who had first built the temple, so he dug down into the foundations and found, eighteen cubits beneath the pavement, the foundation tablet which had been placed there by Naram-Sin, son of Sargon of Akkad—a stone which, so Nabonidus's tablet tells us, 'for three thousand two hundred years no previous king had seen'.

Was Nabonidus the world's first archaeologist? His tablet at Sippar is the earliest record of such an investigation that has ever been found, and it takes us a very long way back into the past, though not quite so far as Nabonidus thought. Naram-Sin had ruled only about two thousand years before Nabonidus himself.

In 1877 the French vice-consul at Basra, Ernest de Sarzec, was given permission to excavate at a mound called Telloh. It turned out to be the site of the very ancient Sumerian city of Lagash, and from it de Sarzec unearthed some wonderful portrait statues carved from the hard stone called diorite. The statues represented the governors, or priest-kings, of the Sumerian city-state of Lagash who had lived more than four thousand years ago, before Sumer and Akkad merged and became Babylonia. Most of the statues were covered with cuneiform inscriptions which show that several of them (of which there are six in the Louvre alone) represented Gudea,



55. A statue of Gudea, Governor of Lagash

the seventh governor. Some of these statues of Gudea are in the British Museum; others are in America.

The statues from Lagash were the first works of art from pre-Babylonian times to reach Europe, and they made a very great impression. They proved that the Sumerians were not only people of a high degree of civilization, but they were also very fine artists indeed.

Many inscriptions were found at Lagash which told of early military expeditions against neighbouring states, and of early quarrels over irrigation problems.



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A few years after de Sarzec discovered Lagash, the first American excavators arrived in Mesopotamia, and began digging at the site of another ancient Sumerian city called Nippur. Among other things they found over thirty thousand inscribed tablets, mostly written in the Sumerian language, and covering a period between 2500 and 1500 B.C.

It was these and other discoveries which proved that the Sumerians, whom no one alive had ever heard of until a few years before, had been a people with an organized government and laws, a written language and literature, and the first disciplined armies.

About this time—the 1870s—the Arabs themselves began to realize, as the people of Egypt had done some years before, that there was money to be made by selling antiquities. They started digging on their own account, hunting for inscribed tablets to sell to Europeans. Even the Turkish Government took a hand, and at least one European investigator reached Mesopotamia to find that the mound he had received permission to excavate had been 'investigated' by Turkish officials before he arrived, and that quantities of tablets had been removed to Baghdad—tablets which the archaeologist was told he could buy if he liked.

There was still no museum in Mesopotamia itself to which antiquities could be sent.

## CHAPTER XV

### *Babylon*

**T**o Layard, Botta, and most other Mesopotamian archaeologists of the first half of the nineteenth century, the main reason for excavating an ancient site was to find objects, such as sculptures and tablets, which they could send to Europe. The great idea, as an Englishman named Loftus admitted, was 'to find important large museum pieces at the least possible outlay of time and money'.

In Mesopotamia, as in Egypt, there was rivalry between excavators of different nationalities, and a wild scramble to find interesting things. Often trenches would be hurriedly dug into a mound, and would be abandoned again if nothing exciting turned up immediately.

Loftus and his colleagues cannot be blamed, as they were often very short of money, and therefore of time. People at home who gave money for excavations to be carried out liked to see something important in return. But this attitude to excavation meant that the wonderful palaces that were discovered were never completely, or even carefully, examined or recorded. Often no accurate plans were made, and a great deal of valuable evidence was destroyed, either by the archaeologists themselves, or because Arabs used the half-excavated mounds as quarries from which to obtain mud-bricks and slabs of stone, and the bitumen, or pitch, which the ancient builders often used as mortar.

In 1899 there arrived in Mesopotamia a German expedition, under a Dr. Koldewey, which had quite different ideas about excavation. For the first time, in Mesopotamia, archaeologists

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tackled a single site and worked at it season after season, not in order to find things to take away, but in order to learn as much as they possibly could about the history of the place.

The chosen site was that of Babylon itself, and the Germans worked there from 1899 until the beginning of the First World War in 1914. By that time they had laid bare almost all the principal buildings of the great city which Nebuchadnezzar rebuilt when Babylon rose to power for the second time. By 700 B.C. he had made it the greatest walled city the world has ever known. The German archaeologists found its huge gateways, the thick walls which defended it, the great palace of Nebuchadnezzar himself, and over ten square miles of buildings, almost all of which had been erected in his time.

They excavated a wonderful processional street which had run past the palace, and found an inscription describing how Nebuchadnezzar had had the road made in honour of the 'great lord Marduk'. It was raised over forty feet above the plain and was paved with slabs of red and white marble. On either side of it were fortified walls twenty-seven feet thick, faced with brightly coloured glazed bricks, and decorated with reliefs of lions, bulls and dragons. At one end of it was a great gate called the Ishtar Gate, with double towers. It was covered, like the walls, with glazed brick, and decorated with reliefs of over five hundred bulls and other animals.

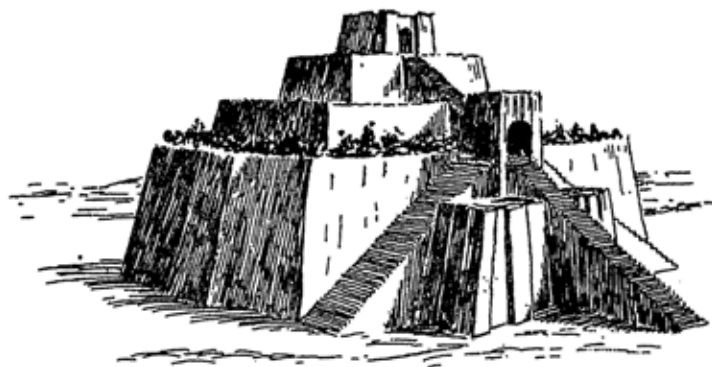
In the king's own great palace most of the walls were decorated with coloured enamels, but the walls of the Throne Room, two hundred feet long by sixty feet wide, were simply plastered in white. Was it, perhaps, this great hall that the writer of the fifth chapter of the book of Daniel was thinking about when he described the feast which Belshazzar (the son of Babylon's last king, Nabonidus) gave to a thousand of the lords of Babylon, when a man's hand appeared and wrote on the wall that Babylon was doomed?

Another interesting thing the German expedition found was the possible site of the 'Hanging Gardens of Babylon'. Like the pyramids of Egypt, these hanging gardens were regarded by the Greeks as one of the Seven Wonders of the world.

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According to the story, Nebuchadnezzar had married a princess from Medina, where there were hills, valleys and trees, and she was miserable in the flat, bare, hot land of Babylon. So Nebuchadnezzar had an artificial hill made, and had terraces cut in it and planted with trees and shrubs, and had a palace built on the top for Amytis, the Queen.

Nebuchadnezzar's great processional way crossed the Euphrates on an arched bridge, and on the other side was the great ziggurat. It was very high, and had three flights of stairs leading from terrace to terrace, until they reached the high place where the sanctuary was. It may have been this ziggurat which is called in the Bible the Tower of Babel.



56. What a ziggurat may have looked like

Unfortunately, buildings made of mud-brick, such as those of Babylonia and Assyria, once they have been exposed to the sun and rain cannot be preserved. No such beautiful or romantic ruins remain for visitors to admire as there are in countries such as Greece and Egypt, where the ancient palaces and temples were built of stone, marble, or similar materials. The excavated ruins of such cities as Babylon and Nineveh become shapeless masses.

After the Germans left, nearly every brick of the ziggurat of Babylon was taken away by local people to use in building the nearby town of Hillah.

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Another site that was completely studied by the Germans over a period of twelve years was that of the city of Ashur, which was the first capital of Assyria. The excavators traced out the walls, streets, buildings and temples of the ancient city, and found three ziggurats—but they did something even more important.

They took a particular building—the Temple of Ishtar—and dug down through a succession of ruins, one above another, laying each one bare, clearing it, photographing it, drawing plans of it, and trying to find out when it was built, before sweeping it away and going on to investigate the one below. At last, deep down at ground level they found the original shrine which the people of the first little settlement put there five thousand years ago, when Assyria was an unimportant province and Sumer, away to the south, was a great nation.

The First World War led to many changes in the Middle East. A British army occupied Baghdad in 1917, and under a British High Commissioner laws were made governing the way in which excavation was to be carried out in Mesopotamia, and the way in which antiquities were to be disposed of.

After that, archaeologists were not allowed to excavate at all unless they were experienced and properly equipped, and unless they employed expert photographers, architects and so on to help them. Their work had to be done by the most up-to-date methods, and only with the approval of a newly appointed Director of Antiquities.

This first Director of Antiquities was an English lady named Gertrude Bell who had spent many years in Mesopotamia and knew the people well and understood them. She founded the new Iraq Museum, and it was laid down that in future everything found was to be the property of the State, and was to become part of the new national collection—except that a certain number of the finds were to be allotted to the excavators in return for all their work.

As a result of the new laws, and the new feeling that arose in the country, excavation ceased to be a mere scramble for

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curios and became a search for knowledge. The Arabs themselves, after centuries of oppression, began to take an interest in the history of the country in which they lived, which was now called Iraq.

## CHAPTER XVI

### *In the City of Abraham*

**A**n immense amount of excavating was done in Mesopotamia between the two wars—but the strangest and most exciting finds of all were made by Sir Leonard Woolley, who directed a combined expedition which was sent to Iraq by the British Museum and the University Museum of Pennsylvania.

Mounds at a place called Tell Muquayyer had been identified as the city of Ur many years before, when inscribed cylinders were found built into the upper corners of the ruined ziggurat.

We are told that Ur-of-the-Chaldees was the city in which Abraham, the Father of the Hebrew people, was born (probably some time between 1550 and 1900 B.C.). Ur was also one of the earliest capitals of the country in pre-Babylonian times, and its governors, or priest-kings, ruled over the whole of Sumer during at least three separate periods.

When Woolley excavated the site thoroughly he found that Ur had been a fortified city and a port from very early times. He found the quays from which ships were loaded and unloaded when the Euphrates, which later changed its course, flowed close to the city. He found, too, that the houses in ancient Ur had been comfortable places, two storeys high, and built round a



57. One of several bronze figures found buried in foundations of Ur

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paved court. There was a brick staircase inside, leading probably to a wooden gallery round the court, outside the upper rooms. The walls were of baked or sun-dried brick, and were covered with plaster and whitewash.

This early city was destroyed in 1737 B.C., after it had rebelled against Babylon and the son of Hammurabi.

In the centre of the city there had been a great walled enclosure, where most of the temples and public buildings had stood for centuries, including, of course, the tall ziggurat, with its three great flights of stairs.

Sumerian tablets, and the scenes represented on cylinders and carved reliefs, were by now teaching archaeologists more about the ziggurats and the ceremonies performed on them. They found that five thousand years ago a great festival had been held every New Year, when processions of priests made their way up the long approaches to the shrine on the top of the ziggurat, and there offered up sacrifices and prayers for good crops in the season to come. Every year a new priest and priestess were chosen to take a prominent part in the ceremonies, and some scholars think it possible that after the ceremonies were over the priest and priestess may themselves have been sacrificed.

Just outside the Sacred Area in which the ziggurat and temples stood, Woolley found and excavated a cemetery in which a great many of the people of Ur in very early times, probably about 3000 B.C., had been buried. The graves were pits dug in the earth, and with the bodies were bowls, jugs, tools and other things which were of pottery or of precious metal, according to the wealth of the dead man and his family. A great many of the graves had been plundered and everything of value taken away.

But as well as the many ordinary graves, sixteen 'Royal Graves' were discovered in the cemetery—and these were very different from the others. The dead had been placed in stone or brick vaults built deep down underground—but that was not all.

In excavating what had evidently been a sloping trench



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leading down into the earth, Woolley found five bodies lying side by side, each with a copper dagger at his waist. There were some small clay cups lying near—but none of the usual grave furniture. Beyond the bodies was a layer of matting—then ten more bodies lying in two rows. They were those of women, wearing elaborate head-dresses and necklaces of gold, lapis lazuli and carnelian, and near them lay the remains of a beautiful harp, which had been decorated with a mosaic pattern of red and blue stones and white shell. From the front of it projected the head of a bull in gold. Although the wood had decayed, it was possible to reconstruct the harp because the gold which had capped the upright beam, and the golden nails which had held the strings, were still in position.



58. Reconstruction of a harp from Ur

By the harp lay the bones of the harpist, a golden crown on his head.

Woolley and his assistants found that they were excavating a great pit, to which the sloping ramp had led. Near the entrance to the pit they found the remains of a sledge or chariot, decorated, like the harp, with red, blue and white mosaic, and with the golden heads of lions on either side of it. In front of the chariot lay the bones of two asses, and near their heads were the bodies of their grooms. On top of the asses was a silver ring, through which the reins had passed, and standing on the ring was a beautiful little golden donkey.

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The rest of the pit was crowded with precious articles—tools and weapons, some of gold, some of alabaster, marble, lapis lazuli, or some other beautiful stone; an inlaid board for playing games; bowls, jugs and other vessels; gold tubes for sucking up liquids; tall silver and gold tumblers—and the bones of many more human beings.



59. The rein-rings and the golden donkey from Ur

Among other things, there was a large box, and when it was removed it was discovered that underneath was a brick-built tomb, in the roof of which a hole had been made. The tomb had been plundered, evidently at the time when the pit above it was about to be filled in, and the box had been placed over the hole to hide it.

Digging around the plundered tomb, Woolley found another pit beside it, similar to the one up above. At the bottom of the ramp which had led down to this lower pit lay the bodies of six soldiers, with copper helmets on their heads and copper spears by their sides. Just inside the pit were the remains of two wagons, and the skeletons of the three oxen which had

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drawn each one. Inside the wagons were the bones of the drivers, and by the bulls' heads lay the grooms.

In another part of the pit lay the bodies of nine women in head-dresses of lapis lazuli, gold and carnelian, and with enormous moon-shaped ear-rings. On top of them lay another harp, with a bull's head in copper decorating it, and in another part of the pit was yet another harp, also with a bull's head projecting from it—this time in gold—and decorated with panels made up of engraved shell representing animals standing on their hind legs and doing all kinds of odd things.



60. Engraved shell decoration from a harp

Inside the plundered tomb there had evidently been several bodies as well as that of the person for whom it had been made. He, according to a cylinder seal which was found, was called A-bar-gi, and was presumably a king—though no royal title was given.

Against the wall of the tomb two model boats were found, one of silver and one of copper, which the thieves had evidently overlooked.

Behind the king's tomb-chamber was another, close to it, and in that lay the body of the queen to whose grave the upper pit—the one first discovered—belonged. Her name was Shub-ad, and her tomb had not been touched. She lay on a bier,

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wearing a head-dress made up of golden ribbons, rings, leaves and flowers. You can see a reproduction of it in the British Museum. The upper part of her body was covered with beads of gold, silver, lapis lazuli, carnelian and other stones, and a golden goblet lay near her lips.

Beside the queen's bier were two women attendants, and around them in the vault were an immense number of valuable things such as two silver tables, some silver lamps, two pairs of gold cockle-shells which had held cosmetics, some gold cups and bowls, a set of silver goblets which fitted into one another, a silver plate and a jug with a long spout. There was even a spare head-dress made of white leather and decorated with thousands of lapis-lazuli beads, against which had been set a row of little golden animals, such as stags, bulls, goats and gazelles, all exquisitely made.

Other royal graves were found, similar to those of King A-bar-gi and Queen Shub-ad. Many of the actual vaults had been entered by thieves who had dug down into the earth and then tunnelled into them, but the pits in which the attendants lay were undisturbed.

In each case the king or queen had been placed in a stone or brick vault, with three or four attendants, and some of their precious possessions. Then to the pit beside the tomb (or above it in Shub-ad's case) had come a procession of finely dressed people—the men and women of the Court, the servants, the musicians with their harps, the chariots and the animals which drew them and the men who looked after them.

How did all these people die—and did they die willingly? Did they, perhaps, regard it as an honour to be chosen to accompany their king or queen? We do not know the answer. There was no sign of violence, no hint that any of these men and women put up any kind of resistance. None of their clothes or ornaments were disarranged. One only among the sixty-eight ladies who lay in one of the largest pits had failed to put on her silver hair-ribbon. Five thousand years later Woolley found it, still rolled up, as she had carried it into her grave.

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We can only assume that after some kind of ceremony these people all, probably, drank poison and lay down quietly to die. In some cases the fingers of the musicians still lay on the strings of their harps. Other attendants must later have slain the animals and filled up the pit.

Some archaeologists think that the men and women buried in the tomb-chambers may have been priests and priestesses sacrificed at the annual New Year ceremonies, with their attendants. But others believe that, although there were no royal titles attached to their names, they were kings and queens ruling Ur in very early days, just before the period when kings of Ur became, for a time, rulers of the whole of Sumer.

One very interesting thing which Woolley found in one of the royal graves at Ur is called the 'Standard' of Ur. It is made up of two panels joined together by means of a triangular piece at each end. Each panel has three strips of pictures made in a mosaic of shell and mother-of-pearl against a background of lapis lazuli. One side of the Standard shows a ruler in time of war and the other in time of peace.

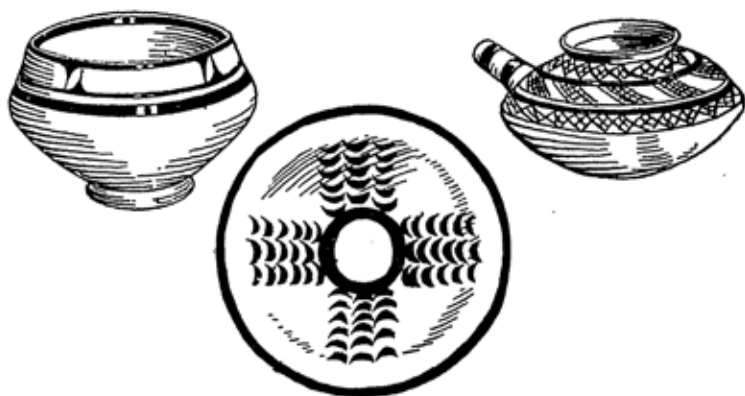
The Standard of Ur is very important because it gives us some idea of what the Sumerians of very early times looked like. We can see how they dressed, what their soldiers were like, what kind of animals they bred, what their chariots were like, how they made their wheels, how they harnessed their horses. You can see the Standard for yourself in the British Museum.

The discoveries at Ur threw a great deal of light on the Sumerians of about 2800 B.C.—but Woolley and other archaeologists wanted to see even farther back into the past, to find out something about the people who had lived in Mesopotamia even before the Sumerian civilization developed.

Archaeologists began to sink shafts beneath even the oldest buildings they investigated, and to go down through layer after layer of debris left by people who had lived on the site earlier still. In this way they discovered three distinct types

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of pottery at different layers. The earliest was a greenish colour, with designs painted on it in black. It is called al 'Ubaid pottery, because that was the name of a place where Woolley discovered examples of it. This pottery was similar to some found in sites among the Persian mountains, and that is why archaeologists believe that the first people to inhabit the plain of southern Mesopotamia came from among these mountains—probably about 4000 B.C.—and built themselves reed-huts on the islands that were emerging from the swamps.



61. al 'Ubaid pottery, the earliest found in Babylonia

The next type of pottery, found at a slightly higher level, was not decorated at all, but the vessels were shining and burnished, and the period in which it was used is called the Uruk period, because examples were found under parts of the city of Erech. Uruk is another way of spelling Erech. The people of the Uruk period (from about 3500 to 3200 B.C.) were superior in culture to those of the al 'Ubaid period, for they knew how to make mud-brick, and they erected buildings which they decorated with a kind of mosaic and with simple sculptures. They used a simple kind of picture writing, too, scratched on clay tablets.

The third type of pottery was decorated with quite elabor-

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ate geometrical patterns in two colours, and it is named after a site called Jamdat Nasr, where examples of it were found with a temple built by the people who used it, and the graves in which they buried their dead.

In hunting for traces of these early inhabitants of Mesopotamia, Woolley sank a shaft at Ur down into the earth below the level at which the royal cemetery lay, and he made some very startling discoveries. At first the workman went down through layers of mud-brick, pottery and ashes which had been left by generations of people living on the spot. Then he came to clean soil, evidently deposited by water—soil in which there was no pottery or other sign of human occupation. The workman was convinced that this was 'virgin soil', deposited by the Euphrates before men settled in the district at all, and that it was useless to dig any deeper. But this 'virgin soil' was not nearly so far down as Woolley thought that it should be. So he told the workman to go on digging.

He dug down through eight feet of silt in which there was no trace of human life—then suddenly bits of pottery began to appear again, with flint tools.

What did it mean? Woolley was convinced that he had found evidence of a great flood—perhaps the flood which had given rise to the story which Smith had found on the inscribed tablets from Nineveh, and of which a version appeared in the Hebrew Bible.

The following season Woolley had a very much larger pit excavated under the spot where the royal graves had been. Again the diggers dug down past layer after layer of houses and pottery, until again they came to the water-laid mud. This time there was eleven feet of it, and beneath it, above the true virgin soil, were the ruins of reed-huts and quantities of Al 'Ubaid pottery. Woolley felt that he had found enough evidence to prove that there truly had been a tremendous flood at some time *after* human beings first began to settle in Mesopotamia. The story of the Flood was not all myth, but was based on a real disaster which probably only a few people survived. The memory of it had lingered, and the story had been

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passed on from generation to generation, until it became part of the folk-lore of the country.

The people who used the greenish pottery with the black designs—the people of the al 'Ubaid period—brought their civilization with them from wherever they had come from. It was no use hunting for traces of earlier men under the soil of Babylonia, because before the al 'Ubaid period the land had been covered with water. But farther north, in the hillier land which had been Assyria, the search for even earlier men went on. Soon a new kind of pottery, never seen before, and very much earlier than the al 'Ubaid ware, was found in a mound called Tell Halaf, and named after it. It was brightly painted in many colours, and had been used, it was discovered, by people who had occupied the northern districts between the Tigris and the Mediterranean before 4000 B.C.

Then in 1931 an English archaeologist named Mallowan sank a deep shaft down into the ground beneath an Assyrian temple at Nineveh. As the diggers went down they found all kinds of relics, such as beads, scraps of pottery, cylinder seals, and so on, dating from every stage of Nineveh's history, back from the date of its final destruction in 612 B.C.

First came Assyrian relics, then Babylonian, then Akkadian, then Sumerian, then pottery of the three phases which had been found under the earliest Sumerian towns, and then the many-coloured Tell Halaf ware. Then, right at the bottom, just above the virgin soil, were a few scraps of pottery with curious patterns scratched upon them, earlier than any found before.

Since the last war, at a place called Hassuna, twenty miles south of Nineveh, archaeologists have found traces of yet earlier inhabitants of Mesopotamia, traces which take the history of this ancient land back to the days, perhaps ten thousand years ago, when wandering tribes first camped on the spot and left the ashes of their camp fires, their flint and bone tools, and scraps of their primitive pottery, behind them.

Excavation still goes on, not only, of course, in Iraq, but in the surrounding countries—Persia, Turkey, Palestine—which occupy the lands where great civilizations developed thou-



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sands of years ago. Every year fresh facts come to light, and we learn more about the places where, possibly, stone-age men grew the very first crops, settled in the very first villages and built the world's very first cities.

## CHAPTER XVII

### *The Search for Troy*

**W**e have seen how great empires arose in the Middle East, and how, after a time, they collapsed and their once-famous cities were lost and forgotten—until archaeologists brought them to light again during last century.

After the overthrow of the Persian Empire in the fourth century B.C. a European nation became master of the civilized world. This Greek Empire also was to fall in time before the might of the Romans, but it was not to be forgotten. The Greek language survived, and, although large numbers of books by Greek poets and philosophers perished, some did not.

The oldest works of Greek literature to come down to us are the great epic poems of Homer which are called the *Iliad* and the *Odyssey*. These poems were old even in the days of Greece's greatness (from about 600 to 300 B.C.) and told about events which, if they ever happened at all, belonged to the forgotten past. Nothing but legends and stories had survived from the days before about 800 B.C. and it was these legends and stories which Homer wrote down in the *Iliad* and the *Odyssey*.

The *Iliad* tells about a war which these earlier Greeks, or Aegeans, as Homer usually calls them, had fought against Troy, a city in the north-west corner of Asia Minor. Paris, who was the son of Priam, King of Troy, visited the palace of Menelaus, who was King of Sparta in southern Greece. Menelaus had a very beautiful wife named Helen, and Paris fell in love with her and carried her off with him to Troy.

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The brother of Menelaus of Sparta was Agamemnon, King of Mycenae. He commanded a fleet of ships which assembled and crossed the sea to Troy, in order to bring back Helen and punish Paris. The siege of Troy lasted ten years. We all know the story of how, in the end, the Greeks made a huge wooden horse, inside which some of them hid, and how the people of Troy took the horse into the town, and so admitted their enemies. Troy was captured by the Greeks and destroyed by fire.

The later Greeks of what we call classical times believed that this story was true, and that Menelaus, Priam, Paris, Agamemnon and the rest had all been real people, and that the war against Troy had really taken place somewhere about the year 1200 B.C.

The Greek Empire gave place to the Roman, and later the Roman Empire also collapsed. Then came the period, lasting nearly a thousand years, which we call the Dark Ages, followed at last by the Renaissance, when men began to hunt for and read the works of the Greek and Roman writers.

Once again the Iliad and its heroes became well known, but most scholars now regarded it as a myth (something which has been imagined) or, at most, as a legend in which there was not very much truth. There were some mounds in the north-west corner of Asia Minor, just south of the Dardanelles, and travellers decided that one of these was probably the site of Troy—if Troy had ever really existed.

But one day in 1829 a German pastor gave his seven-year-old boy, Heinrich, a book—Jerrer's *Illustrated History of the World*. One of the pictures in the book showed a character from the Iliad, Aeneas, fleeing from the burning city of Troy, carrying his father on his back and leading his small son by the hand. Little Heinrich Schliemann was tremendously impressed by this picture, and by the massive walls and the great gate which the artist had drawn in the background. He tells us in a book which he wrote many years later that he made up his mind then and there that when he grew up he would find the city where these events had happened, although his father

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told him that it had completely disappeared so that no one knew for certain where it had stood.

Several eccentric and unusual characters have been attracted to the study of archaeology, but none of them has been more remarkable than Heinrich Schliemann.

He was unlucky as a child, for his father fell on bad times, and, although Heinrich badly wanted to learn all he could, he was taken away from a good school where he was learning Latin with great ease and enthusiasm, and sent to another school where he was taught very little. Then, at fourteen, he was apprenticed to a grocer at Fürstenberg, and for the next five years he worked, as people did in those days, from five o'clock in the morning until eleven o'clock at night.

During this period of his life, Schliemann certainly had no time for study. But even in the grocer's shop something happened to revive his interest in Troy and the Iliad. A miller who had been well educated, but was very often drunk, staggered into the shop one day and began to recite some lines from the Iliad, in Greek. Schliemann was fascinated—although he did not understand a word—and he tells us that he persuaded the miller to repeat the lines three times, and then and there made up his mind that somehow, some day, he would learn Greek himself.

When he was nineteen Schliemann left Fürstenberg. He was very poor indeed for a time, and in bad health, but he was determined to get on. He completed in a few months a course in book-keeping which took others over a year. Then he decided to go to South America, but the ship he sailed in was shipwrecked off the coast of Holland. Finally he got a job in Amsterdam. His salary was small, and life was still hard, but now at last he had time to begin to catch up on his education.

First Schliemann mastered his own language, German, then Dutch. Then he learnt English in six months, by a method of his own. He learnt whole books such as *The Vicar of Wakefield* and *Ivanhoe* by heart, and tells us that after some practice he could repeat twenty pages after reading them three times.

He went on to learn Spanish, Italian and Portuguese, and

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by this time he could learn a language in six weeks. He became correspondent and book-keeper to an export firm, and learned Russian. Soon after that he was sent to Russia as the firm's representative.

In a very short time Schliemann became a merchant on his own account, and within a few years he was a very wealthy man. He travelled a great deal—and added Slovenian, Danish, Swedish, Norwegian, Polish and modern and ancient Greek to his list of languages by the time he was thirty-three years old. Later he learnt Persian, Arabic and Turkish.

All this seems a long way from Troy, and from archaeology. But Schliemann was still passionately interested in Ancient Greece. He now knew and loved the works of the Greek poets and historians, and one of his main reasons for wanting to make money was so that he might be free to carry out the ambition of his childhood and hunt for the lost city of Troy.

Schliemann was over forty when he sold his business and retired with a fortune. Soon he was in Greece, and in 1868 he landed on the south coast of the Dardanelles, in Turkish territory.

Schliemann believed, as the Ancient Greeks of classical times had done, that everything he read in the *Iliad* was actual historical fact. Therefore, when he was taken to the mound which most scholars had decided was the site of Troy, he compared what he could see with what he had read in the *Iliad*. He decided that the scholars were wrong. This mound was three hours' ride from the sea—and Homer's heroes had ridden backwards and forwards between Troy and the coast several times a day. Besides, the hero Achilles could not have dragged Hector three times round the walls of Troy at this spot (as Homer said he did) because there was a steep ravine on one side, sloping down to a river.

Schliemann decided that another mound near a village called Hissarlik, one hour from the sea, where the land was more level, was the true site of the ancient city. The Greeks and Romans of classical times had also believed that this was

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the site of Troy, and near it they had built a city which was called *Novum Ilium*, or New Troy, of which the ruins could still be seen.

Schliemann obtained a permit to dig from the Turkish authorities, and in April 1870 he turned over the first spadeful of soil at the north-west corner of the mound near Hissarlik.

He soon found ruins of walls—but they were Roman and belonged to buildings erected hundreds of years later than the Trojan war. But lower down he came to other walls, and then more walls, and yet more. Not one Troy only had once stood on this spot, but several, one above another. But which was the Troy which the Greeks had besieged, the Troy to which Paris brought Helen?

Schliemann had married a sixteen-year-old Greek girl named Sophia, and she worked with him during the several seasons which he spent excavating at Hissarlik. Soon Schliemann's workmen had driven several great trenches into the mound at different spots, and Schliemann and his wife were busy sorting the fragments of pottery, tools, clay figures, and so on, that were found.

As we have discovered in reading about Egypt and Mesopotamia, archaeologists had not yet learnt how best to excavate an ancient site, and they knew nothing about dating the various layers by studying and comparing fragments of pottery. Schliemann, like archaeologists elsewhere, destroyed walls in order to find out what was below and beyond them, without first having plans made and photographs taken. Later investigators have blamed him for this, but the important thing is that he did something no one else had thought of doing, and to the great excitement of people in Europe, and to the astonishment of learned men and scholars everywhere, he proved that Troy had actually existed, and that it lay concealed within the mound at Hissarlik.

Schliemann believed that the Troy he was looking for must be very far down in the mound, because it was so ancient and the events which Homer described had happened so long ago. He was puzzled to find that the walls at the lower levels were

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not very impressive, while very much nearer the top of the mound were fine strong walls made of smooth limestone blocks. He believed that these dated from about the third century B.C.—nearly a thousand years later than the Trojan war. But the seven or more Troys which Schliemann revealed were very bewildering, for the various walls overlapped, and were not easy to distinguish from one another.

Far down at the bottom of the mound on the south side of the hill Schliemann found stone implements, ancient bronzes and pottery. Above this, in the second layer from the bottom he found strong walls twelve feet thick, with projecting towers and two large gateways. One of these gates he decided must be the Scaean Gate described by Homer. Inside the circular area which the walls enclosed were the remains of buildings—and one at least, Schliemann thought, might have been Priam's palace, for it had a room about sixty feet long by about thirty feet wide. There was no doubt that this city had been destroyed by fire, for there were quantities of burnt and blackened corn and melted bronze. The walls themselves had been built of unbaked mud, but great heat had baked parts of them into brick. Schliemann believed that this, the second Troy, was the Troy of the Iliad.

In the spring of 1872 Schliemann was again excavating at Troy. He hoped to find the treasure of King Priam, which Homer had described. He had found many things—terra-cotta vases, copper lances, and things of that kind—and had decided to stop work for that season on June 15th.

The day before the work was to end Schliemann stood with his wife near the building which he believed was Priam's palace. He was watching the workmen digging twenty-eight feet below. Suddenly he noticed a big copper object, just visible among the burnt debris beneath a wall. Then, as he looked more closely, he saw, behind it, the bright gleam of something else—gold.

Hurriedly Schliemann turned to his wife and told her to go at once and shout 'Paidos', which was a Turkish word used to call a rest interval for the workmen. But it was still early in

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the morning. 'Tell them it's my birthday—make any excuse—but see that everyone goes', he said.

When they were quite alone Schliemann told Sophia to fetch her red shawl. Then, with his knife, he cut out from the hard earth the objects he had caught a glimpse of. One by one he drew out the treasure which someone, thousands of years before, had failed to save, and placed the objects in the shawl.

Secretly they carried them to their hut and spread them out. There were gold bracelets, enormous golden goblets, fifty-six gold ear-rings, thirty-four copper daggers, and several thousands of small golden objects, including eight thousand seven hundred gold rings. Finest of all were two splendid golden diadems, meant to be worn on the head, with fringes of gold chains to hang over the wearer's forehead and down on to her shoulders.

Schliemann was quite certain that he had found the treasure of Priam, King of Troy, and that the jewels had been worn by Helen, whose beauty had brought about the Trojan war. He believed it had all been packed in a wooden chest (which had burned or rotted away) and that whoever was trying to escape with it had been compelled to abandon it on the wall. It had then been buried under five or six feet of red ash and stones which had fallen over it from a burning palace near by, and later cities had been built over it. The copper object he had found he believed was the key of the wooden chest.

In great excitement Schliemann hung chains around his wife's neck and decked her with the diadems and rings—the 'jewels of Helen'. For them both it was a tremendous moment.

We know now that the Troy in which Schliemann found the treasure was not Homer's Troy, but a very much earlier city. Archaeologists who excavated in other parts of the mound after Schliemann's death discovered the more massive and impressive ruins of a larger city at the sixth level from the bottom. This they were able to date by comparing the method of building and the pottery and other things found with similar discoveries which, by that time, had been made in other places. They decided that this was the Troy which Homer wrote



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about. The city walls were about fifteen feet thick and thirty feet high, and were made up of great limestone blocks beautifully put together. At intervals there were huge towers, and archaeologists have found three gateways.

Schliemann himself, you remember, had seen a part of one of these walls and had admired it, but he believed that it belonged to the days of Classical Greece, and was therefore much later than Homer's Troy.

The city inside the great walls of the sixth Troy had fine paved streets radiating inwards from the wall, like the spokes of a wheel, to a point in the centre at the top of a hill. The houses were built in terraces, and there were palaces larger and with finer rooms than any Schliemann had discovered.

This city of Troy suffered badly in an earthquake about 1300 B.C., and archaeologists now believe that it is really the rebuilt city, Troy No. 7, to which Paris brought Helen, which Agamemnon's army besieged about 1200 B.C., and into which, according to the Iliad, the famous wooden horse was dragged. In this city, too, there are obvious signs of destruction by fire, and archaeologists have found the skeletons of men who died in battle.

Schliemann did not find Homer's Troy, and the treasure he discovered was not Priam's, but had belonged, probably, to a king who lived a thousand years earlier. But all the same, he had achieved something very wonderful indeed. He had not only proved to the world that Troy had really existed, but he had started a whole series of investigations which have been going on ever since.

## CHAPTER XVIII

### *Schliemann finds more Treasure*

Schliemann excavated in other places after leaving Troy, and with equally amazing success. He learnt a great deal as time went on, and because of the discoveries he made in other places he himself must have begun to feel rather uneasy as to whether the second Troy was really Homer's, and whether the treasure he had found was truly Priam's. But he died before actual proof was found, and was spared having to admit to himself and the world that he had been wrong.

Another city which Schliemann had read about in the *Iliad* was Mycenae, of which, according to Homer, Agamemnon was King. The wealthy city-state of Mycenae—golden Mycenae, as Homer calls it—was near the coast of the mainland of Greece. There, when Agamemnon returned home from Troy, his wife, Clytemnestra, and her lover, Aegisthus, murdered him and all his friends and followers with him.

In Schliemann's time there was no doubt at all about the site of Mycenae, as there had been about Troy. The ruins of the great fortress were there for anyone to see, above precipitous cliffs not far from the Isthmus of Corinth. The main gate leading into the citadel was well known. It is called the Lion Gate because, above the actual entrance, two splendid lions stand facing each other, with their forepaws on an altar.

When Schliemann excavated Troy he accepted as absolute fact everything he read in the *Iliad*, and by doing so found the true site of the ancient city. At Mycenae he believed just as

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completely in the accounts which had been written by a Greek historian named Pausanias, who lived in Rome during the second century A.D. This, of course, was fourteen or fifteen hundred years after the events happened which are described in the Iliad. But Pausanias described the Greek cities, or their ruins, as they were in his day, and recorded the myths and legends about them which were known to the people of his time.



62. The Lion Gate, Mycenae

Pausanias had visited the ruins of Mycenae (it was sacked in 468 B.C.). He mentioned the Lion Gate in the wall made up of huge stones which encircled the top of the steep-sided hill on which the fortress stood. He mentioned underground buildings, too, in which he said Atreus (the father of Agamemnon and Menelaus) and his family had kept their treasure, and

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tombs in which he said Agamemnon and his friends had been buried after the murder. Then he went on to say something rather puzzling—that the murderers, Clytemnestra and Aegisthus (who were killed later by Agamemnon's son), had been buried *outside* the wall, because they were not deemed worthy to be buried inside it, where Agamemnon and his friends were buried.

In Schliemann's time, the only wall was the one crowning the top of the hill, and this enclosed a rather small, rocky area. But outside, in the valley which sloped down from the fortress hill to the sea, there were large circular chambers which had been hollowed out of the hillsides and lined with great blocks of stone. The chambers were in the shape of beehives, and each one was approached by a straight passage, or cutting, also lined with stone. These were ancient tombs, plundered centuries ago, but usually they were called 'treasuries', and the largest and finest was called the 'Treasury of Atreus'.

Other investigators before Schliemann had explored at Mycenae from time to time, and had hoped to find the tombs of Agamemnon and his friends. But they had always searched among the valley tombs. They believed that in Pausanias's time there must have been a second wall, enclosing the area where the ancient 'treasuries' were, and that all trace of it had disappeared.

But Schliemann believed that Pausanias meant what he appeared to have said—that Agamemnon and his followers were buried inside the wall in which the Lion Gate stood. He made up his mind to excavate and find out.

He had some difficulty with the Greek authorities before he was able to start digging at Mycenae. Schliemann and his wife had managed to smuggle the treasure from Troy out of the country, and that had annoyed the Turkish authorities very much. The Greek Government wanted to make sure that nothing of the kind happened at Mycenae. So Schliemann was only permitted to dig, at his own expense, under the supervision of the Archaeological Society of Greece, and on condition that he handed over everything he found. He was

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forbidden to remove walls until they had been measured and properly recorded.

At last, in July 1876, Schliemann began digging inside the walls, not far from the Lion Gate. Very soon he found other walls, statuettes of the goddess Hera, and vases, but they were Greek or Roman and did not interest him. Then he found something that did interest him very much indeed—a double ring of stone slabs, some still standing on edge, as they had all done originally. He felt sure he had found the seats on which the elders of Mycenae sat when they took council together or dispensed justice. He remembered that Pausanias, in speaking of another similar agora, or place of assembly, had said that the graves of the heroes were in the centre. Schliemann was convinced that the graves of Agamemnon and his family were there beneath his feet.

Once again his extraordinary instinct had guided him towards a wonderful discovery. His men began to dig within the circle. Soon they found an upright stone slab (or stele, as such slabs are called) and soon many more, some carved with scenes showing men in chariots. Schliemann was sure that these were grave-stones, and that beneath them he would find the graves of the heroes.

The workmen went on digging down through the earth until at last they came to solid rock. Then, when they had removed the last shovelful at one spot, Schliemann was thrilled to see, quite clearly, the beginning of a shaft which had been sunk into the rock and afterwards filled up. It was December 1876 when he recorded in his diary that he had found the first tomb.

They began to clear the shaft, Schliemann and his wife and the supervisor representing the Greek Government, Stamakatis, examining every spadeful as the workmen removed it. They had gone down fifteen feet when Sophia found the first hint of treasure—a small gold ring. The workmen were sent away, and the Schliemanns and Stamakatis did the rest of the work alone—here, and later in the other shaft graves, for Schliemann found five altogether. In the graves fifteen men

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and women and two small children had been buried, and the bodies were, as he himself wrote, 'literally covered with gold and jewels'.

Schliemann was quite certain that he had found the bodies of the heroes. One can imagine his delight and excitement. He sent a cable to the King of Greece: 'It is with extraordinary pleasure that I announce to Your Majesty my discovery of the graves which according to tradition are those of Agamemnon, Cassandra, Eurymedon and their comrades, all killed during the banquet by Clytemnestra and her lover, Aegisthus.'

With infinite care Schliemann and his wife worked, gently scraping away the earth from the skeletons with their fingers or with pocket-knives, and so uncovering the treasure which had been buried for thousands of years. No such hoard had ever



63. A Mycenaean knife

been found before as that which Schliemann unearthed from the graves at Mycenae. 'All the museums of the world taken together do not have one-fifth as much', he wrote.

It was not until nearly fifty years later that the discovery of Tut-ankh-Amen's tomb in Egypt revealed treasure to equal Schliemann's find at Mycenae. There were quantities of golden diadems, girdles and plaques, gold and silver goblets and alabaster vases, and scores of little animals, leaves, butterflies and fish made in solid gold. The two babies were wrapped in sheets of gold. Most impressive of all, there were pure gold breast-plates on the men's skeletons, and golden masks which appeared to have been actual likenesses of the men whose faces they had covered.

In the fifth grave lay three men, with beautiful, richly inlaid weapons beside them. When Schliemann lifted the gold breast-plate and mask from one of them, he found that the body had

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been wonderfully preserved and that the face was that of a man of about thirty-five years old. Schliemann sent a telegram to the King of Greece: 'I have gazed on the face of Agamemnon.' For he was quite convinced that the graves he had found were those of the heroes from Troy, and that this body was that of Agamemnon himself.

Every evening, after a long day of careful work, Sophia Schliemann carried away a basket full of the ancient gold of



64. A passage inside the walls of Tiryns

Mycenae, and Schliemann and the Greek official followed, to count and number each article and lock it away.

Later Schliemann excavated another city mentioned by Homer called Tiryns. This great city was destroyed about the year 500 B.C. Pausanias saw the ruins, and described them as being so massive and vast that they were like the pyramids of Egypt. The Greeks of the golden age thought the ruined walls of Tiryns were so marvellous that they could not possibly have

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been built by ordinary men, so legends had grown up that a king of Tiryns named Proetus had employed a number of Cyclops to build them. The Cyclops were giants of great strength, each with only one eye. Very strong walls built of huge stones, such as those at Tiryns and Mycenae, are still said to be cyclopean.

In Schliemann's time archaeologists believed that the ruins still to be seen at Tiryns were not those of this early city, but that they were the remains of buildings erected during the Middle Ages. Even his Greek guide told Schliemann that there was nothing interesting at Tiryns.

All the same, Schliemann dug, and laid bare the foundations of an enormous citadel and palace. The walls were made up of gigantic blocks of stone, some weighing ten tons each, and were extraordinarily massive—in some places as much as fifty-three feet thick. Some walls were hollow, with passages inside them.

Schliemann did not find gold or other treasure at Tiryns, but he found terra-cotta figurines and bulls similar to some he had found at Mycenae, which proved that the two places had been occupied by people of the same culture living at about the same time. And the palace he excavated, with its porch, its courtyard, and its large rooms, was much more like the palaces Homer described than the rather unimpressive buildings which Schliemann had decided must be the Palace of Priam in the second Troy.

His own writings show that Schliemann was becoming very puzzled, and was beginning to ask himself whether the Troy in which he had found 'Priam's Treasure' could really have been the Troy of Homer.

It was not until archaeologists had had a great deal more experience and had excavated many more sites, and classified, sorted and compared the things they found, that they were able to arrive at dates for such cities as Mycenae. We know now that the graves Schliemann found were not those of Agamemnon and his friends (if they ever lived, which no one knows for certain), but that they were probably those of kings



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and queens who were buried between 1600 and 1500 B.C. (three to four hundred years before the Trojan war).

Since Schliemann's time a great deal more excavation has been done at Mycenae. During the present century archaeologists have discovered that the ancient cemetery which Schliemann discovered originally extended beyond the present cyclopean walls, which were built during Mycenae's greatest period, from about 1400 to 1150 B.C. When the great walls were built, the circle of stone slabs which Schliemann found was placed around the area in which earlier kings and queens had been buried, and it was this circle which Schliemann thought was the agora, or place of assembly. Probably religious ceremonies were performed in Mycenae, as they were in Egypt, near the royal graves.

When Mycenae fell, the stone circle, and the graves it enclosed, were all buried under debris which fell from the fortress above them.

Quite recently, in 1952, the Greek Archaeological Society began to excavate part of the cemetery outside the cyclopean walls, and a second grave circle, similar to the one Schliemann discovered, was found. Just below the surface were some more grave-stones.

When Pausanias visited Mycenae in the second century A.D. these stones may have been visible, and he may also have been told of a tradition that kings and queens had been buried *inside* the walls of the citadel as well.

But if that is so, it is a mystery why the graves beneath the stones outside the walls were never opened, and their treasures taken. For when the Greek Archaeological Society opened up the shaft graves which they, like Schliemann many years before, found cut into the rock, they found the skeletons inside undisturbed, and near them bronze and silver vases, gold cups, ornaments and masks, swords and daggers of bronze with pommels of alabaster and ivory.

Although Schliemann was mistaken about the dates of many of his finds, the results of his work were very important indeed. Like Botta and Layard in Mesopotamia, he brought to light

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a forgotten civilization, one which had existed more than a thousand years before Christ. As he himself said, he had 'discovered a new world for archaeology'.

We call this civilization, which flourished, probably, from about 1500 or 1600 B.C. to about 1100 B.C., the Mycenaean. But as archaeologists studied it and its remains, they began to suspect that there had been some other civilization even earlier than the Mycenaean, from which, probably, the Mycenaean had developed. Where had been its centre?

Schliemann himself began to wonder if there had been some connection between the civilization he had unveiled and the island of Crete. Homer had written a good deal about Crete and its principal city, Knossos. Ruins of ancient buildings far underground had already been found in Crete, at the spot where it was believed Knossos had stood, when Schliemann made his discoveries at Mycenae.

He decided that he would investigate there next. But although he obtained permission from the Governor to dig, he had difficulties with the peasant who owned the land. So he gave up the idea—and it was another very different type of archaeologist who made the wonderful discoveries at Crete which take us thousands of years farther back into the past history of Europe.

This other archaeologist was an Englishman—Dr. (later Sir) Arthur Evans.

## CHAPTER XIX

### *The City of King Minos*

Arthur Evans was a learned man, and was for some years Keeper of the Ashmolean Museum at Oxford. He believed that some kind of picture-writing must have been used in Europe in prehistoric times, as there had been in Egypt, and he was interested in finding out all he could about it.

When he visited Greece he was tremendously impressed by the great walls of Mycenae and Tiryns—work so different from that of the later Greeks which we call 'classical'. The gold objects from Mycenae, too, excited him. Some of the gems and seals from Mycenae had curious figures engraved on them, and Evans felt sure that the figures represented words or numerals. Sometimes when he asked where such gems had come from he was told 'from Crete'. Gradually the things he saw seemed more and more to point towards Crete. He talked to a German archaeologist who had been excavating classical sites in Crete, and who could tell him a very little about earlier remains on the island. At last Evans decided to go there himself.

All kinds of ancient stories about Crete were known to the Greeks of classical times. No one had written them down in a clear and definite form, as Homer had done with the stories about Mycenae and Troy, so there were several versions of each story. One of the most famous of the legends was about King Minos and the Minotaur.

Minos, so it was said, had been a king of Crete, and had lived in his great palace at Knossos. At that time the cities

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and islands of what was later to be Greece were separate city-states, each with its own king. Athens was one of these city-states and its king was named Aegeus.

King Minos of Crete believed that his son, Androgeus, had been murdered in Athens by order of Aegeus, so in revenge he compelled the people of Athens to send him every year seven youths and seven maidens. They were taken to Crete and forced to enter a maze, or labyrinth, at Knossos, where they wandered about until, in time, each one of them reached the centre. And there they found the Minotaur—the bull of Minos—a terrible monster with the body of a man and the head of a bull, who devoured them.

The story goes on that one year when the collectors came from Knossos to choose the best youths and maidens, Theseus, who was the son of King Aegeus of Athens, put himself among them and was chosen. He sailed with the others, determined to kill the monster.

At Knossos, King Minos's daughter, Ariadne, fell in love with Theseus. She gave him a large ball of thread, and fastened one end of it to a nail by the entrance to the labyrinth. After a tremendous fight Theseus did manage to kill the Minotaur, and, by means of the string which he had unwound as he entered, he found his way out of the labyrinth. He and the other youths and maidens sailed back to Athens, taking Ariadne with them—and the things that happened after that do not concern us at the moment.

Another legend tells us that Zeus, the king of the gods, was born in a cave in the mountains of Crete, and that King Minos was the son of Zeus. When Minos wanted to give a code of laws to the Cretans, he went to the cave, and while his companions waited above, he descended into its inky depths and there met his father, Zeus, who himself gave him the code of laws.

In 1899 Arthur Evans began digging at the spot where it was believed Knossos had stood. He intended to spend only a short time excavating in Crete—perhaps a season or two—but in the end he worked there season after season for more than

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twenty-five years. For almost immediately he began to dig he found that he was uncovering the remains of another completely forgotten civilization—one of which no record had survived except in such legends as that of Theseus and the Minotaur. And he found that this civilization went back to days many, many centuries earlier than the Mycenaean civilizations which Schliemann had uncovered. In fact, it had come to an end about the time at which the Mycenaean civilization was reaching its highest peak of development.

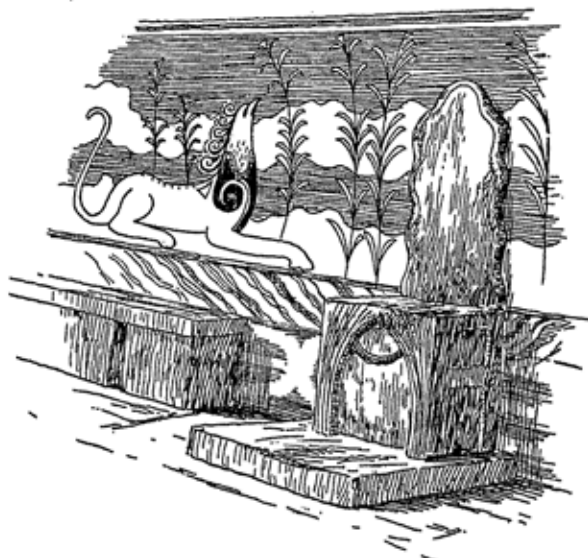
Almost as soon as they started digging Evans's workmen began uncovering an absolute maze of rooms, halls, corridors and staircases, walls on which there were traces of prehistoric frescoes, bits of statuary, fragments of pottery. Within a few weeks Evans had revealed more than two acres of a vast palace which he identified as the Palace of Minos. For this reason we call the rediscovered civilization of Crete, the 'Minoan'.

Evans found great store jars six foot high, such as we read about in the story of Ali Baba and the Forty Thieves, carved friezes, and, before long, some very wonderful frescoes indeed. One was a painting of a life-size figure which is now very famous, called the Cupbearer. In another room there were paintings of palm trees and other plants. In a great throne-room Evans found the throne of Minos still in place, with griffins painted, as though on guard, on the wall on either side of it.

On other walls there were pictures of flowering olive sprays, processions of people, a boy gathering saffron—and everywhere there were bulls. They appeared as engravings on small seals, as decorations on vases, and they were painted on the walls. These frescoes revealed something very remark-



65. The Cupbearer,  
Knossos



66. The Throne of Minos



67. Bull and athletes, Knossos

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able indeed—that in the time of Minos a very difficult and dangerous form of athletic exercise had been practised. Young men and girls had faced a charging bull, had seized its horns, and had been tossed over its head to make a back-somersault over its back and land, one hopes safely, behind it.

Do these pictures explain the legend of the Bull of Minos? It is quite possible that they do. Perhaps the young men and maidens who came from Athens every year were not devoured by a bull, but were trained to take part in this peculiar form of bull-fighting. If so, one can well believe that a constant supply would be necessary for few surely would remain alive, or uninjured, for very long.

Perhaps the bull was a sacred animal to the Minoans (as, you remember, it was to the Egyptians). Perhaps when certain ceremonies were being performed the priest or priest-king wore a bull-mask on his head, and from this fact arose the legend of the half-man, half-bull monster, the Minotaur. Thousands of years earlier, in Old Stone Age times, as you read in Chapter III, men wearing the heads or horns of animals on their heads, and performing some kind of ritual dance, were sometimes painted on the walls of caves. Many of the Egyptian gods, too, were represented as men with the heads of animals or birds. So there is nothing unlikely in the idea that the legend of the Minotaur preserves the memory of some form of bull-worship and the ceremonies connected with it.

Perhaps the 'Minotaur' which Theseus killed was really King Minos himself. One version of the story of Theseus tells us that he went to Knossos, not with the youths and maidens, but with a number of ships which he had secretly assembled, and he killed Minos and destroyed the palace and city.

The palace which Evans excavated at Knossos had certainly been destroyed by fire. Holes filled with charred wood indicated where wooden columns had stood.

Another thing that appeared everywhere in the palace was a sign in the shape of a double-axe—two axe-heads, one on either side of a shaft. This weapon was called in classical times a labrys, and because it appeared so often among the ruins of

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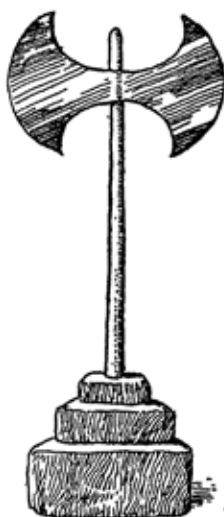
the Palace of Minos, which were then still visible, the building came to be known as the labyrinth, or house of the labrys. The word labyrinth came in time to be applied to any confusing place with many twisting passages in which it is difficult to find one's way about—and this explains, perhaps, how the legend of the maze in the centre of which the Minotaur lived may have originated.

There was nothing careless or slap-dash about the excavations at Knossos. Every scrap of soil was passed through a sieve, sometimes two or three times, so that nothing should be missed. All kinds of interesting things were found which proved that Evans had been right in thinking that the people of these very early times used a form of picture-writing.

Quite early in his investigations he found a piece of clay on which the impression of a seal had been pressed, and even some tiny fibres of the string which had passed through the clay. The seal was in the form of a lion with a kind of star on its shoulder. Close by were four small bronze hinges, and traces of charred wood, and a number of clay tablets. The rooms he was investigating had been store-rooms in which wooden boxes full of tablets had been kept, and the boxes had evidently been tied up and sealed.

In a very short time Evans was able to write that he had collected about seven hundred fragments of clay tablets, something like the inscribed tablets from Babylonia, but the inscriptions on the Cretan ones were in an unknown picture-writing which no one could read.

Evans had experts to help him at Knossos, and fortunately, by this time, far more was known about how to excavate a prehistoric site, and how to preserve anything found, than had been known even twenty years earlier. Such frescoes as



68. A labrys, or double-headed axe



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the Cupbearer could now be removed and taken away to the Museum at the modern city of Candia in Crete, where it would be safe from damage by rain and sun.

After a time, as more and more of this wonderful palace was revealed, Evans (who was a wealthy man) decided to replace the decayed or destroyed wood, to re-erect columns and walls, and so to attempt to reconstruct the palace as it had been. For the first time in the history of archaeology, while one part was being excavated another was being restored, and the interior of the palace, visible again after perhaps three thousand years, was protected. A trained architect worked on the site all the time.

The palace, with its great halls, staircases, galleries and bathrooms had been vast and very impressive. It had been three storeys high in places, which was very unusual and unexpected. But that was not the only surprising thing about the Minoans. The frescoes, the engraved seals and the statuettes, some made of ivory and gold, which were discovered, showed that in the way they dressed the people were very different from the Egyptians and the peoples of Mesopotamia—though they were similar to the people of Mycenae.

Most people of the ancient world had dressed in loose, straight, or flowing garments, but the Minoan women were shown wearing closely fitting bodices, drawn in very tightly at the waist, and full, bell-shaped skirts. Some figures, such as those representing a goddess of the underworld holding a snake in each hand, are shown wearing a dress with a series of flounces or frills all the way down the skirt, rather like the dresses worn last century by Victorian ladies.

Some of the figures on the wall-paintings are extraordinarily natural, and are quite different from the stiff, conventional figures which were being painted at the same time in Egypt. On some walls groups of ladies with elaborately dressed hair and elegant brightly coloured dresses, are shown chatting and gossiping together in a most lively, animated fashion. When copies of such pictures as these arrived in London, Paris and other cities, they made a great stir, for they were

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quite unlike any other work of the ancient world that had ever been seen before.

Many interesting things were found in the palace. There was an enormous stone vase which needed the efforts of eleven men with ropes and poles to move it. There was a beautiful little table, which had evidently been used for games. It was set at intervals with crystal plaques lined with silver, and had at one end a number of circular spaces for a game which must have been similar to draughts.

In a basement room Evans found a number of plaques on which there were mosaic pictures showing houses in a Minoan town, and they, surprisingly enough, were also of three storeys. Some of the houses were of stone, some of timber and plaster, and they were shown with windows, some single and some double.

In a store-room connected with the palace Evans found about eight thousand bronze arrow-heads and a splendid hoard of inscribed tablets—but alas, neither he nor anyone else could read them.

An amazing thing about the palace was that under it there was a complicated network of sewers. Four thousand years ago the brilliant architects who designed the palace at Knossos worked out systems of drainage which were far better than those in use in many other lands hundreds and hundreds of years later, or even to-day.

Near the palace a wide paved area was discovered which seemed as though it had been intended for shows of some kind. Perhaps it was one of the earliest of all theatres.

As the years passed and Evans went on excavating at Knossos, he discovered a very great deal about the people who had lived there. Beneath the great palace he found the remains of another smaller palace which had been built very much earlier. In time he identified three distinct periods, or phases, of bronze-age culture at Knossos, which he called the Early, Middle and Late Minoan cultures. But beneath the bronze-age Knossos, he found the remains of earlier people still—people of the Neolithic, or New Stone Age, who had lived

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there so long that the tell, or mound, they had created was twenty feet thick.

Sometimes Evans found objects which had obviously been imported from Egypt. Archaeologists, too, who excavated in Egypt sometimes found Minoan objects in Egyptian tombs. There were Egyptian wall-paintings, too, representing people whom the Ancient Egyptians called Keftiu, or the people of the islands, whom it was now possible to recognize as the people of Crete.

By comparing Minoan objects with Egyptian ones of which the dates were known, archaeologists were, in time, able to form some idea of the dates of the different Minoan cultures. It is thought that the Middle Minoan period commenced about 1800 B.C., that the Late Minoan commenced about 1600 B.C., and that Knossos was finally destroyed about 1400 B.C.

The Neolithic period, when the first stone-age farmers arrived, probably from the direction of Syria, and began to cultivate the soil of Crete, probably commenced between 4000 and 3000 B.C.

While Evans was working at Knossos another British archaeologist named Hogarth explored the great cave high in the mountains where tradition said the god Zeus had been born, and which had therefore been regarded as a sacred place by the Ancient Greeks and Romans.

A great fall of rock, and the accumulation of debris, had blocked part of the cave, and Hogarth and his assistants had to blast away the boulders before they could begin their investigation.

There were two parts to the cave, an upper hall, and an 'abysmal chasm', as Hogarth calls it. In the upper hall a number of small bronze objects were found, such as knives and bracelets, and miniature double-axes, which were symbols of Zeus. These were all fairly late in date, and they were the gifts which people of Ancient Greece, from about 500 B.C. onwards, and Ancient Rome, had brought to the cave as offerings to the god.

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But when searchers descended into the depths, carrying candles, something much more exciting was discovered. So that he could have both hands free to grope in the mud of the cave floor, one of the searchers placed his candle in a cleft in one of the stalactites which hung from the cave roof. And suddenly he saw, wedged inside the cleft and standing upright, a bronze knife. When it had been taken out, it was clear that it was a Mycenaean knife, far older than anything found in the cave above.

Instead of searching the floor, the investigators now began to hunt among the other stalagmites and stalactites. They found many hundreds of offerings—ornaments, brooches, knives, double-axes—which had been brought to this ancient sanctuary of Zeus four thousand years or more ago, and had been hidden from human eyes for, perhaps, two thousand years.

Other archaeologists, as well as Sir Arthur Evans, worked in Crete after the break that was caused by the First World War. They discovered ancient tombs, the remains of other fine palaces similar to the one at Knossos, and many things which confirmed or added to the knowledge which Evans had gained.

Two forms of script were found in Crete, and Evans called them Linear A and Linear B. A great many examples of Linear B script have also been found at Mycenae and other places on the Greek mainland where there had been Mycenaean settlements.

For a long time neither script could be read, but at last, in 1953, it was announced that an architect who had been working on the Linear B script for seventeen years had managed to decipher it. It was written in an early form of Greek, and proved therefore that the Mycenaeans were themselves Greeks, and were the actual ancestors of the Greeks of classical times.

The Mycenaeans used the same signs in writing their language as the Minoans did in writing theirs, which shows that the Mycenaeans had learnt them from the Minoans. But no

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one, so far, has succeeded in reading the Linear A script of the Minoans themselves.

In Egypt the Rosetta stone, with its Egyptian and Greek inscriptions, helped students in their efforts to read Egyptian hieroglyphics. In Mesopotamia, inscribed tablets and the rock of Behistun, with their scripts in three languages, gradually enabled students to read cuneiform, and to learn the unknown languages of Assyria, Babylonia, and even, at last, the ancient languages of forgotten Sumer and Akkad. But so far, in Crete, no such convenient inscription in two or three languages has been found, and until something of the kind turns up, the Linear A script seems likely to remain unread.

## CHAPTER XX

# *A Town Preserved for Two Thousand Years*

**T**he Greeks of the golden age erected some of the most perfect buildings and carved some of the finest statues the world has ever seen.

When Greece fell before the Romans many of its fine cities were destroyed and the statues were carried away to decorate the homes or public buildings of the Roman conquerors. When Rome in her turn fell before barbarian hordes from the north, many of her cities, temples and public buildings also were damaged or destroyed, and the statues, both Greek and Roman, fell to the ground, and, in time, were hidden under piles of earth and debris.

The relics of Ancient Greece and Rome were those in which men first began to take an interest after the long period of indifference which we call the Dark Ages. The buildings, or what was left of them, were not all forgotten and lost to sight underground, as the palace of Minos and the cities of Mesopotamia had been. Many of them had been left to collapse and decay, or had been used as quarries by people who wanted stone, but they, or the ruins of them, were still visible.

In Athens, for instance, one of the most beautiful of all classical buildings, the Temple of Athene, which is called the Parthenon, was in almost perfect condition until 1687. The Turks were then in control of Athens, and at a time when the Venetians were besieging the city, the Turks stored gunpowder in the Parthenon. The result was that an explosion

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ruined the lovely building, and smashed the frieze of sculpture with which it was decorated into fragments, which lay about on the ground neglected and ignored.

This damage was, to some extent, accidental, but even after the Renaissance ancient and interesting buildings were often damaged deliberately. Although architects now admired, measured and tried to imitate classical buildings, it seldom occurred to anyone to attempt to preserve or restore them.

In Rome itself, for instance, there was the huge amphitheatre which we call the Colosseum. Here, in the great days of the Roman Empire, gladiators had fought one another, or contended against wild animals, and here, possibly, Christian martyrs were sacrificed while thousands of people looked on (though some historians now deny this). Near by was the Forum, the central market place and place of assembly, which was a feature of all Roman cities. On one side of it was the Basilica, a great hall with semi-circles at each end, where merchants met to do business and where judges administered justice.

After the fall of Rome, the Colosseum was used as a stone quarry for generations. Even in the eighteenth century the Roman Forum was deep in rubbish, and kilns, in which the beautiful marble which faced the ancient buildings was burnt to make lime, operated there for years.

Of course, a great deal of ancient work was buried in various ways. In cities such as Rome other buildings were erected over the ancient ones; in quiet country spots vegetation grew over the fallen remains and hid them. So from time to time, at first by accident, some fragment of classical work would be dug up—perhaps the capital of a column, or a damaged statue. Sometimes statues were found by ignorant people who believed that, because they had been made by heathen men and women living before the days of Christianity, or because they represented heathen gods and goddesses, they would be unlucky. So they destroyed them.

In the fourteenth century the people of one Italian town dug up an ancient statue and set it up in their market square.

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But soon the town had bad luck, so the people blamed the statue. They smashed it up, and then secretly buried the pieces in the territory of their enemies, so that the bad luck should be transferred to them!

But educated people were delighted when an ancient work of art was discovered, especially if they thought they could recognize it from a description they had read in a book by one of the ancient authors, or if they thought it might be the work of an artist whose name had come down to them.

As you read in Chapter I, popes, kings and other wealthy men and women all over Europe began to buy ancient statues and other treasures, and to preserve and protect them. We can see some of the wonderful collections the men of the fifteenth, sixteenth and later centuries made, in such museums as the Vatican Museum in Rome, the Uffizi in Florence, the Louvre in Paris, and in other palaces in different parts of Europe which wealthy families built.

The remains of the Greek statues from the frieze of the Parthenon were rescued by the English Ambassador to Turkey, Lord Elgin, and were sent to England in 1812. They are now in the British Museum.

As soon as rich people started to buy 'antiques', as they were called, men began to search for them by digging among the ruins and in likely places. But for many years such digging was not 'archaeology', as the whole purpose of it was to find works of art.

All this began to change in the nineteenth century. Greece was the first country in Europe to start excavating seriously and carefully. From 1835 archaeological work was controlled by the State.

In Italy the State did not undertake excavation until some time later, but independent scholars investigated the ancient tombs of the Etruscans—the rather mysterious people who were powerful in Italy before the days of the Romans. Large numbers of Greek vases were found in the tombs, many with scenes painted on them. These painted vases told scholars a great deal, not only about Greek pottery, but about the lost



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and forgotten art of Greek painting—and a great deal, too, about the myths and legends of Ancient Greece.

Other scholars investigated the Roman catacombs—the eerie maze of underground passages in the walls of which the early Christians of the first and second centuries secretly buried their dead.

Archaeologists began to excavate on the Palatine hill, where, it is said, the first settlement was made, in the eighth century B.C., from which the great city of Rome developed. They exposed the ruins of palaces built on the hill by a succession of Roman Emperors, as well as temples and a great stadium for pageants, parades and horse races.

In 1872 the clearing of the Roman Forum commenced, and the destruction of such buildings as the Colosseum was stopped. But it is during the present century that real attempts have been made to expose as much as possible of Ancient Rome. Whole streets of houses have been taken down in order that the buildings under them can be excavated. Fallen columns have been re-erected, and open spaces cleared of debris.

Now the visitor to Rome can see for himself the spot where Caesar was murdered and the spot where, tradition tells us, St. Sebastian was martyred. He can himself walk along the triumphal route which was followed by the processions of victorious generals.

But though the palaces, temples, cities and public buildings of Roman times are extremely interesting, something has been preserved in Italy from the far-off days of Imperial Rome which is even more interesting because it is unique.

Near the coast, a few miles south of Naples, two cities called Pompeii and Herculaneum existed in Roman times. They were at the foot of the great volcano, Vesuvius, and one August morning in A.D. 79 the volcano suddenly awoke. Its summit seemed to split apart, and enormous clouds of ashes, dust and stones were hurled into the air, to fall again on the surrounding country. A stream of lava, which is a kind of liquid stone, poured down the mountain side, the choking fumes of sulphur gas drifted everywhere, and clouds of smoke blotted out the

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sun. Terrified people rushed out of their homes and tried to escape, or crouched in what they hoped might be a safe spot. But sooner or later the suffocating gases reached them and they choked to death.

Herculaneum lay in the path of a lava stream, which crept over the city and into every nook and corner. As it cooled it set like rock, and Herculaneum was lost to sight under sixty-five feet of it. No lava reached Pompeii, but the city was just as completely hidden under a covering of ashes and small stones from nineteen to twenty-three feet thick.

Time passed, and the two cities were forgotten. Then, nearly seventeen hundred years after the disaster, when an underground aqueduct, or canal, was being constructed, some walls were discovered on which there were paintings and inscriptions. It was Pompeii, but few people at that time seemed interested, and nothing more was done.

About 1711 a villa was being built for an Italian prince when some peasants told the builders about a pit, or well-shaft, in the lava near by, in which they had found marble and statues. A few statues were dug up and placed in the garden of the palace of the King of Naples, but no more excavation was carried out until 1738. Then King Charles of Bourbon and his wife, who were king and queen of Naples, became interested, and a few holes were blasted in the hard, stone-like lava, and passages were cut from the bottom of a shaft. Some large bronze statues of men on horseback were found, then some marble statues of men wearing the toga of Ancient Rome. A little later an inscription was found, and the excavators knew at last that they were tunnelling into what had been the theatre of Herculaneum.

Excavation went on at Herculaneum in rather a haphazard way for some years, and more statues and buildings were discovered. In 1753 a most exciting find was made—a villa in which there was a room with shelves all round it on which there were hundreds of papyrus rolls, and in the centre a table at which a reader could sit. It was the library of the house. The scrolls, of course, were scorched and charred, and

## *A Town Preserved for Two Thousand Years*

were very difficult to handle. But a Father Pioggi invented a little machine by means of which he managed to unroll the scrolls a fraction of an inch at a time, and many of them could be read.

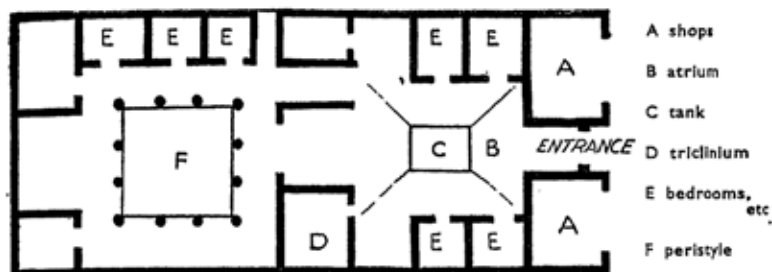
But the work of exploring Herculaneum by cutting into the lava was very hard indeed. So in 1748 Charles of Bourbon set men to work digging at Pompeii, and here they found that the light soil could be removed quite easily. So for a time Herculaneum was abandoned, and the work continued at Pompeii only.

As we have seen, the aim of eighteenth-century and early nineteenth-century excavation was to find works of art and other treasures. Plenty of these were unearthed at Pompeii—statues, furniture, mosaic floors—and for a long time these were simply removed and the house was then buried again and digging was started in some other spot. Wall-paintings, if any were found, were simply left to decay. After about thirty years of casual digging, excavation stopped altogether.

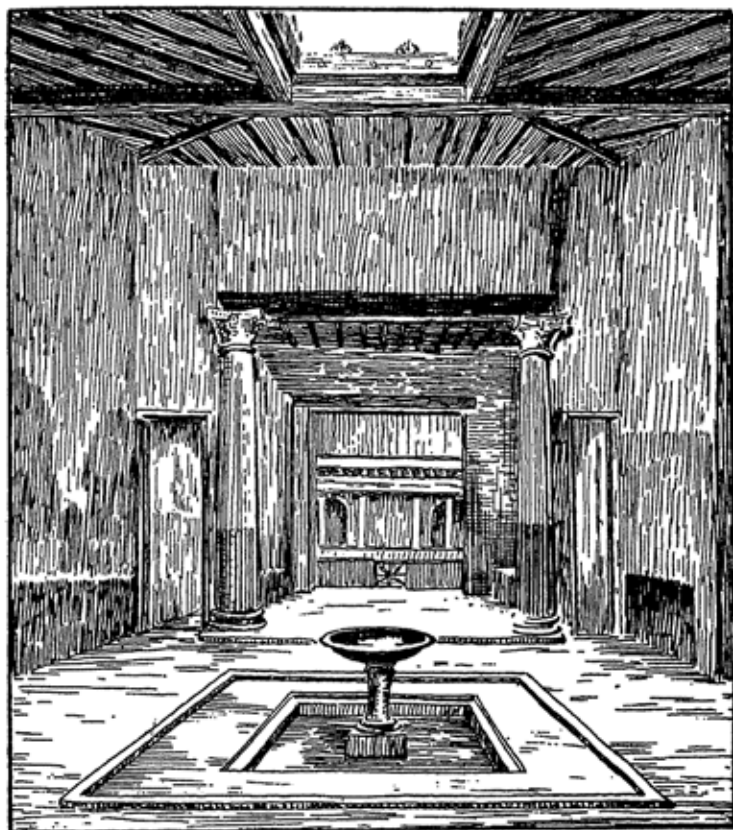
You remember that Napoleon had a great deal to do with the beginning of investigations into the past of Egypt. His sister, Caroline, who was queen of Naples for a time at the beginning of the nineteenth century, was energetic in encouraging renewed excavation at Pompeii, and after the fall of Napoleon, the Bourbons, who had been reinstated in Naples, continued the work. But it was not until 1860, when the work was put under the control of an Italian named Guiseppe Fiorelli, that excavation became really careful and systematic.

After that, houses were uncovered completely one by one. The work has been going on ever since, and about three-fifths of the city has now been uncovered. The people who do the work now are careful not only to preserve all they possibly can, but to restore and replace lost or damaged woodwork, to rebuild roofs and balconies, and, when possible, to leave statues, mosaic floors, and furniture in their original positions. Such work takes a very long time, and costs a great deal of money.

The life of Pompeii came to an end abruptly and without



69. Plan of a typical Pompeian house



70. Inside a Pompeian house

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warning, and instead of being buried by slow degrees over a period lasting hundreds or even thousands of years, it was covered immediately by a thick blanket of dust, and so preserved just as it was.

The people who dug up this lost and forgotten city found everything just as the terrified inhabitants left it nearly two thousand years ago. We can see some of the things they found in a small museum at Pompeii itself. The many large statues which were removed in the early days, and valuable things which cannot be left lying about, are now housed in a large museum in Naples.

What makes Pompeii so interesting is that homely, everyday things have survived, such as a bowl of eggs on a kitchen table; half-cooked loaves in a baker's oven; the terra-cotta and bronze vessels and fittings of a kind of snack-bar, where hot and cold drinks were served; the gems and half-finished cameos in the workshop of a lapidary, or gem-cutter; a chest containing silver bowls and dishes in the underground store-room of a wealthy man's house; the accounts of a banker written on waxed tablets; a set of surgical instruments—and innumerable other intimate things which are valuable because they throw such vivid light on the life of the time.

Temples; public buildings; theatres; the oldest Roman amphitheatre known; the Forum, or main square; three public baths—all these have been exposed in Pompeii, and are in themselves extremely interesting. But it is the preservation of private houses and shops, of streets and taverns, that makes Pompeii unique.

The city existed for several centuries, so its houses are not all of the same age or type, or decorated in quite the same way. Some of them, of course, were the luxurious homes of rich people, while others were the humbler homes of people who lived behind their shops or work-rooms.

The typical simple Pompeian house was entered from the street through a door which often stood between two shops which had no connection with the house. The door opened into a passage which led to a central court, called the atrium.

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The atrium was roofed over except in the centre, where there was an opening through which rain-water ran off the roof into a tank underneath. On either side of the atrium there were bedrooms, and towards the back of it two rooms, one on each side, with no wall on the atrium side. At the back of the atrium facing the entrance there was, on one side, the triclinium, or dining-room, and in the centre a room open on one side towards the atrium and on the other towards another courtyard beyond, called the peristyle. The peristyle had a garden in the centre with a path all round it over which was a roof supported by columns on the garden side (rather like the cloisters of an abbey). On the outer side of the paths there



71. Wall decorations from Pompeii

were more rooms. All the rooms in a Pompeian house looked inwards towards the atrium or the peristyle, and there were no outside windows.

This simple plan was often varied and made more elaborate. In a large house there might be more than one atrium and more than one peristyle, and there might be winter and summer tricliniums, or dining-rooms, private baths, and, of course, the kitchen quarters and store-rooms.

The walls of a great many of the rooms in Pompeian houses were decorated with wall-paintings. Sometimes they illustrate stories from Greek myths, or from the *Iliad* or the *Odyssey*, or depict gods and goddesses; sometimes they show what kind of work was done in the house, such as the weaving and fulling of cloth; sometimes there are light-hearted pictures showing



72. 'Beware of the Dog'—  
a mosaic floor from Pompeii

Cupids engaged in all kinds of occupations such as preparing and selling perfumes, taking part in chariot races, gathering grapes and preparing wine, acting as goldsmiths, or as weavers.

The walls of an inn are covered with simple little pictures illustrating the life of the place, and the people who visited it.

The floors and some of the walls are decorated with richly coloured mosaics or tiles, and statues of bronze and marble stand in the gardens.

Some of the most interesting things found in Pompeii were the inscriptions on the outside walls. These (except for a few) were not carved inscriptions which were meant to last for as long as the stone on which they were cut, which are a feature of so many excavated buildings of ancient times. They were written or painted notices, announcements and comments intended for the people of Pompeii themselves, and served the same purpose as our posters.

There are election notices—the name of the candidate, followed perhaps by the name of a citizen or an association supporting him. There are announcements of shows to be held in the amphitheatre; advertisements describing houses or land to let; appeals for information about a lost animal.

On both inner and outer walls one can read the casual comments or reminders which ordinary men and women scratched

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on the plaster with a stylus, the pointed instrument with which people wrote on wax tablets. A sports enthusiast scratched a few words praising his favourite athlete; children scratched their school exercises; shop-keepers scratched their accounts on the walls beside their counters, and business-men jotted down on the wall the date or time of some appointment.

Paper had not been invented in those days, and papyrus, which was imported from Egypt, was too expensive, probably, to use for casual notes.



73. A street in Pompeii

The streets of Pompeii are straight, and cross each other at right angles. They are paved with stone slabs, and in the main streets deep ruts can be seen which were made by the wheeled traffic of two thousand and more years ago. On either side of most of the streets there are raised foot-paths, and at intervals there are high stepping-stones by which pedestrians can cross the streets. Stone cisterns stand at some of the cross-roads,



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and water runs into them to-day exactly as it did in the days when Pompeii was a busy city, and the housewives and servants filled their buckets there, or passers-by paused to drink.

Many gruesome things have been found in Pompeii. The bodies of a great many men and women who tried frantically, but too late, to escape with a few of their possessions, were found in the streets and crowded round the city gates. A group of seven children were crouched together in the room of a house. A woman had died trying to protect her baby with her veil. A dog had died fighting wildly to escape from the chain which held him. In a kind of sports ground with a swimming-pool in the centre, a number of men and boys had been practising athletics or playing games. They had sheltered in one of the dressing-rooms, and their skeletons were found there nearly two thousand years later.

## CHAPTER XXI

### *Treasure in Britain*

Wherever the Romans penetrated they made fine roads, built cities and erected bridges, aqueducts, triumphal arches, temples and camps. The relics of their activities are scattered everywhere, even over the little island which lay at the far north-eastern corner of their Empire which we now call Britain.

Some of these relics of Ancient Rome are visible, or partly visible, above ground. There is the wonderful wall, for instance, with its forts, which stretches across the north of England between the Tyne and Solway. It was built between A.D. 122 and 126, by the Emperor Hadrian, and marked the northern boundary of the Empire, as well as protecting the southern half of Britain from the unconquered tribes of Scotland.

But more often the Roman relics have to be searched for or are found purely by accident. The cities which the Romans built, such as York, London, Canterbury, have usually been hidden under later buildings, and it is only when rebuilding, or underground tunnelling, is being done that traces are found. We learn what such cities were like in Roman times by slow degrees, as bits of Roman wall, mosaic pavements, fragments of pottery, carved stones and so on come to light from time to time.

The rebuilding of badly bombed districts since the war has given archaeologists a wonderful opportunity (probably the last they will ever have) to excavate the Roman remains which lay twenty or thirty feet beneath the level of some modern cities.

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In London, as we all know, a temple in which the Romans worshipped the god Mithras has been discovered, with some statuary, on a site on which the foundations of a modern office building were being dug.

But sometimes, after the fall of the Roman Empire, a town was deserted, and left to decay, and no later town came into existence on the same site. Then, as the centuries passed, the stones were taken away and the grass grew over the foundations.



74. A Roman lamp found at Verulamium

Such a city was Silchester. The Roman walls still remain—but they enclose fields on which crops grow or cattle graze. There are no buildings left above ground to show that this was once a busy active city. But Silchester was excavated towards the end of the nineteenth century, and its straight streets, crossing each other at right angles, have been traced. Archaeologists found the Forum, with the Basilica near by; four temples; a large inn equipped with private baths; the public baths; the houses, each surrounded by a piece of open land; and, one of the most interesting things of all, a little building which they believe was a Christian church.

If they are right it must have been built between the years 313 when Christians were allowed to worship in their own way and 410 when the Roman legions left Britain and the country was gradually overrun by the pagan Saxons, in which case it must have been one of the earliest churches in Britain.

Verulamium, near St. Albans, is another Roman town which was deserted. The bricks and stones of which it was

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built were used centuries later to build the Abbey and town of St. Albans near by, and the Roman foundations were overgrown and hidden. A partly Saxon church, St. Michael's, and its vicarage, stand on the spot where the Roman Forum and Basilica stood.

During this century archaeologists have uncovered parts of the city walls and have laid bare the foundations of the great gate, with its double carriage-ways and foot-ways for pedestrians, by which Watling Street entered the city on the south-east.

The foundations of temples and houses have been revealed in different parts of what was the Roman city. Beautiful mosaic floors have been found, some of which are now in a local museum close to St. Michael's Church. Not far from what was the Forum, an open-air theatre—the only one in Britain—has been thoroughly excavated. It was almost circular, with a high wall on the outside. Inside we can see the steep earthen ramp which supported the wooden seats on which thousands of spectators could sit. The stage had a permanent fixed background, of which one column has been restored, and in front of it is the large slot into which the curtain was lowered.

In front of the stage is the 'orchestra', which was originally circular and about eighty feet across. It had a wall round it, and may have been used for shows of which animal-baiting formed a part. In the centre of the orchestra there is the foundation of a cross-shaped timber contrivance which may have been something to which animals were tied.

A new road is to be made to by-pass St. Albans, and it will run right across ancient Verulamium. Before it is constructed the wide tract of land it will cover is to be thoroughly excavated, and any buildings found will be planned, recorded, measured and photographed, and movable things will be taken away to safety.

All over Britain in Roman times, connecting the towns, ports and camps, were well-made roads, the first properly constructed roads Britain had ever seen—and the last she was to see until about fourteen hundred years after the Roman legions

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left. Many of our present-day roads follow the line of the Roman roads for part of their length, and in that case the original Roman work has been destroyed, or lies far beneath the surface of the modern road. Many miles of Roman road have become grassy tracks over open country, and it is interesting to try to follow them. Others have disappeared altogether under ploughed-up land or built-up towns.

Sometimes the line of a Roman road shows up clearly on a photograph taken from the air, even when no trace of it can be seen on the ground.



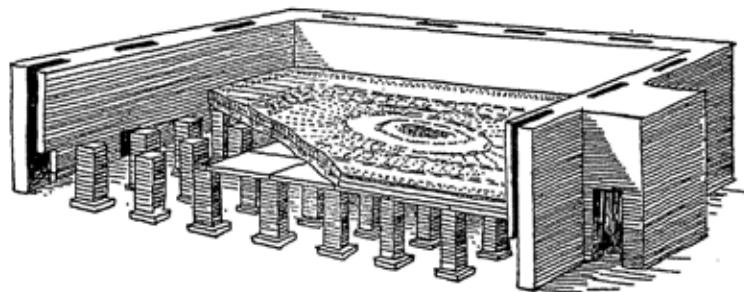
75. A Roman road crossing Wheeldale Moor, Yorkshire

Here and there stretches of Roman roads have been excavated and left exposed, so that we can see them just as they were in the days when Britain was part of a great empire governed from Rome. There is a section across the moors near Goathland in Yorkshire, paved with blocks of local stone, where we can walk where the Legions walked. Another short stretch is visible at Holtye, near East Grinstead in Sussex. This road ran from London to Lewes, and crossed the area

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where iron was mined and smelted, so the surface of the road at this point was made up of iron-slag from the furnaces. It has rusted into a solid mass in which the wheel-marks of nearly two thousand years ago are clearly marked. It is said that this section of road was discovered when lightning struck it and the wheat growing over it was blasted. In another part of Sussex, Stane Street is clearly visible as it mounts Bignor Hill.

A great many people in Roman times lived in towns, but even more, probably, lived on farms, large or small, in the country. We call such country-houses 'villas'. When Roman villas are found it is usually by accident, since nothing of them



76. A Roman hypocaust

remains above ground. Over five hundred have been discovered, in Kent, Sussex, Hampshire, Somerset, South Wales, Lincolnshire and in the Cotswolds. The finest to be excavated so far is that at Chedworth, in Gloucestershire, nine miles north of Cirencester. It was discovered when a ferret had gone down a rabbit-hole and failed to come up again, and its owner had to dig it out.

Roman villas must generally have been very comfortable places. They were built in pleasant, sheltered spots, where they caught the sun, and were not as a rule far from a good road. In some villas the dwelling-house of the owner and his family was along one side of a courtyard, while the barns and

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other farm buildings, and rooms for the servants, were on the other sides.

The principal rooms had mosaic floors, and some rooms had hypocausts under them—which means that the floor was supported on little columns of brick or stone so that there was a space under them. The space was filled in winter with warm air which circulated from a furnace outside. Among the debris excavated from the main rooms in Roman houses are found such things as pieces of plaster from the walls, on which patterns in different colours have been painted, and pieces of broken glass from the windows.

Jewels, such as brooches, rings, bracelets, pins and decorative chains, in bronze, gold and silver, sometimes decorated with coloured enamels, have quite often been found, and household goods such as jugs and bowls of pewter and silver.

One day in 1942 a farmer was ploughing at West Row, near Mildenhall in Suffolk. The ploughshare struck a great round silver dish. On the centre of it was embossed the head of a bearded, long-haired man (probably a sea-god), and all round the edge were graceful male and female figures dancing and playing musical instruments.

That was only the beginning of the discovery, for underneath the dish were no less than thirty-four silver objects, all perfectly preserved. Among them was a beautiful covered bowl, with a figure on the top of the lid holding a horn.

There were a number of heavy silver wine cups, silver spoons and many other things. On one of the spoons was the sign which is called the Chi-rho, which is made up of the first two letters of the Greek word for Christ, so this silver must have belonged to someone living in Britain after the Roman Empire became Christian.

Perhaps the owner buried it in a hopeless attempt to save it when a tribe of Saxon raiders was approaching, after the Roman legions had gone.

[ Exactly what happened in Britain after 410, when the Roman legions left, we do not know. The raiding Saxons came and settled over wider and wider areas, and there must

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have been much fighting and bloodshed. But whether some of the Romano-Britons continued to live side by side with the Saxons, and for how long the Roman towns continued to support some kind of life, we cannot tell. The fifth and sixth centuries in Britain have been called the Lost Centuries, for only legends, such as those about King Arthur and his Knights, have come down to us.



77. Silver wine cup found at Mildenhall

The earliest writer to tell us anything about this period (for we are now getting near to the days of written history) was a priest in the West of England named Gildas. He wrote about A.D. 540, and described from hearsay and imagination what he thought had happened a hundred years and more earlier. He tells us that the Saxons destroyed the Roman towns and villas, killed nearly all the inhabitants, and drove the rest towards the west.

Archaeologists are gradually finding out a little more about this dark period, and one thing their investigations have proved is that Gildas was wrong in thinking that the Saxons destroyed the Roman buildings. Most of the villas which have been excavated have obviously decayed and have collapsed because



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no one kept them in repair. Probably the Saxons raided them, and took away anything that interested them—and then left them alone. The one thing that is certain is that the Saxons themselves had no desire to live in towns and were not in the least interested in the comfortable and civilized houses which the Romans had built for themselves. But at present there is very little evidence to show whether Gildas was also wrong in saying that all the Romano-Britons were killed or driven away.

Few traces of Britons have been found in the areas occupied by the Saxons during this period. But this does not prove that there were no Britons left. All through this book you will have noticed that a very great deal of what we know about long-forgotten peoples has been learnt from their graves. This is because in so many places and in so many periods people have buried useful or valuable things with their dead, because they thought the dead man or woman would need them in the next world.

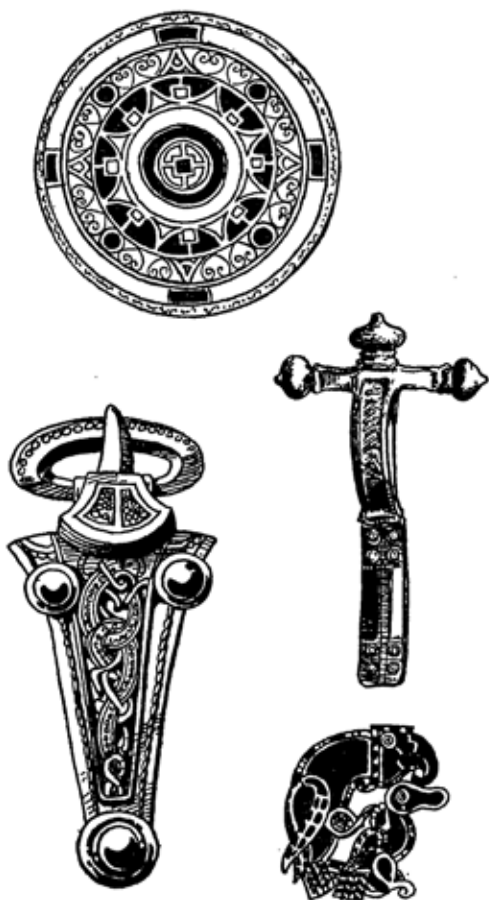
Christians do not believe this, and their dead are buried without any of the things they used when they were alive. It is therefore very difficult to identify their graves.

The Saxons were pagans when they arrived in Britain, and a large number of things have been discovered in their graves and have told us a great deal about them.

Some of the first excavations of Saxon burial mounds, or barrows, were carried out by amateurs in the eighteenth century. A clergyman, the Rev. Bryan Faussett, collected enormous numbers of jewels and weapons from Saxon barrows in Kent, and the collection is now in the Liverpool Public Museum. Another eighteenth-century amateur was an engineer named James Douglas, whose collections are in the Ashmolean Museum in Oxford.

In the nineteenth century many barrows were opened by parties of keen amateurs who treated the expedition as a jolly picnic outing.

The Rev. Bryan Faussett found, among other things, one of the finest pieces of Saxon jewellery known. It is called the Kingston Brooch because Faussett found it in a barrow near



78. Saxon jewels and ornaments

Kingston, a village south-east of Canterbury. The brooch is made of solid gold, and consists of five rings, one inside another, all set with garnets. Under the one hundred and fifty garnets, to throw up the lovely red colour, is an underlay of hatched gold foil, and here and there among them are other settings of blue glass, and four bosses of a pearly white colour.

The brooch weighs six and a half ounces, and the position

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in which it was found shows that it was used to fasten a cloak on the wearer's right shoulder. It is the most beautiful brooch of its kind, but a great many of these circular garnet-decorated brooches have been found, particularly in Kent. With the Kingston brooch were two silver brooches of the safety-pin type, two bronze bowls, a fine glass cup, a gold pendant, a pottery urn, and what may have been part of a workbox. Scholars believe that the grave was that of a woman, and evidently a wealthy one.

In humbler graves, strands of beads and smaller, simpler brooches are found, and in the graves of men there are weapons and wooden shields covered with hide, and with a central boss of iron. Chieftains alone seem to have possessed two-edged swords, of which the hilts were sometimes decorated with gold and with garnet inlay.

In women's graves there are often little gilded bronze work-boxes which hung by a chain from the woman's girdle, and which contained the tools women must have used ever since clothes were first made of woven cloth—needles and thread.

But the most wonderful hoard of treasure ever found in Britain was discovered just before the last war started in 1939. On an estate called Sutton Hoo, near Woodbridge in Suffolk, there was a barrow which, fortunately, had not been excavated in the days when such things were done in a happy-go-lucky way, before people had learnt that it was necessary to work slowly and scientifically.

The owner of the estate had the barrow excavated by experts—and they discovered something absolutely unique in British archaeology. They showed, too, that extraordinary things can be achieved by really expert excavation.

They discovered that the mound had covered, not the body of a dead man or woman, but a Saxon ship. In the thirteen hundred years during which it had lain there every scrap of woodwork had rotted away, but the iron nails and bolts remained in position, and after the soil had been carefully removed, grain by grain, the form of the ship lay exposed like the ghost of what it had been.

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It was a rowing-boat, eighty feet long, and driven by thirty-eight oarsmen. But the boat itself was not all. Inside the boat a little hut had been built, and in the hut were placed the treasures which the dead king to whom this was a monument had owned.

There were a number of things which had come from the far-away lands bordering the Mediterranean—a bowl from Egypt, a huge silver dish and a set of nine silver bowls stamped with the name of Anastasius, the Emperor who ruled the Byzantine Empire from A.D. 491 to 518; two silver spoons with the names Saul and Paul inscribed in Greek letters; an enormous hanging bowl; bronze bowls and tubs.

But the most exciting things of all were the personal jewels, ornaments and weapons which the king himself had worn, and which have now been cleaned and restored where necessary. There was a helmet, which was in fragments, but has been carefully put together; a pair of gold shoulder clasps set with garnets and blue and white mosaic; a very heavy gold buckle six inches long, decorated with an interlaced pattern; a sword with a hilt of gold decorated with garnets; a gold purse-frame to which jewelled ornamental plaques had originally been fixed, and the coins which had been in the purse.

No skeleton was found in the barrow. But who was the king whose ship and whose treasures were thus ceremoniously buried, and where was he?

It has been suggested that the Sutton Hoo barrow was a monument to King Aethelhere, brother of King Redward of East Anglia. It is known that Aethelhere died fighting in battle in Yorkshire, but where he himself was buried we do not know.

This is the only burial-ship that has ever been found, so far, in Britain, but several have been unearthed in countries on the other side of the North Sea, from which the Saxons, and later the Vikings, came.

## CHAPTER XXII

### *Temples in the Jungle*

**T**he civilizations which had flourished around the eastern end of the Mediterranean, and which nineteenth- and twentieth-century archaeologists unearthed, were all linked with one another to some extent, or had developed from one another.

Not so very long ago it would not have occurred to anyone that on the other side of the Atlantic, thousands of years ago, a great civilization could have developed quite separately which had no connection at all, apparently, with any of those we have been reading about.

Everyone knew that Cortes, when he conquered Mexico for Spain in the sixteenth century, found a highly developed nation, the Aztecs, under their king, Montezuma, living in cities, worshipping in immense temples, and possessing an enormous amount of gold and other treasure.

But Spain crushed the Aztec culture and religion out of existence. America was gradually populated by people from the Old World. Before long even the descriptions which some sixteenth-century Spaniards had written of Central America as they found it were forgotten.

Early in the nineteenth century a young American named Stephens happened by chance to read a military report in which a colonel mentioned the ruins of some very strange buildings which he had seen in the wildest regions of Honduras in Central America.

Stephens was keenly interested in antiquities, and had already been to Europe and had travelled through Egypt, the

## *Temples in the Jungle*

Holy Land and Greece. He did not think it possible that there could be anything really ancient in his own country. He tried to find out more about the ruins the Colonel had seen, and soon he came across another reference, written about the year 1700, to ruins at a spot called Copán in Honduras.

He made up his mind to go himself and see if there was anything worth seeing. He persuaded an artist named Catherwood, who had had experience in drawing ancient buildings, carvings and so on in Egypt, to go with him. They started off in 1839.

In those days Central America was seething with Civil War. Wild bands of undisciplined bandits were storming about the country, robbing and plundering. Stephens and Catherwood and their guides had some unpleasant adventures on their difficult journey, very much as Layard and others did on the other side of the world, in Mesopotamia, a few years later.

But the kind of country they had to face was very different. Stephens and Catherwood had to fight their way through untracked jungle, in stifling tropical heat, with thorns tearing at their clothes, and clouds of mosquitoes maddening them. Huge creepers spread from tree to tree above their heads, so that (as Cortes also had found when he passed that way three hundred years earlier) it was so dark they could hardly see their way. At night the jungle came alive with the cries of unseen animals.

Stephens became less and less hopeful as he pressed on. Surely there could be no relics of past civilizations here?

Then suddenly they came to a wall, built up of large stone blocks. There was a flight of steps leading up to a terrace—but the whole building was so overgrown with trees, bushes and creepers that it was almost completely hidden. The Indian guide began to chop away at a tangle of creepers with his knife, and slowly there came into view a great slab of stone, a stele covered all over with sculptures, and quite unlike anything Stephens or Catherwood had ever seen before.

The stele was over twelve feet high, and nearly three feet wide and thick, and there was not an inch of it that was not decorated with carving. In front, in high relief, was the figure

## *Temples in the Jungle*

of a man or god, wearing strange, richly decorated clothes and an elaborate head-dress.

Soon, as they hacked away at the tropical undergrowth, they found more steles—fourteen in all—and more walls, stairs and terraces. Stephens fought his way up a flight of stairs which led up and up from the shadows below to the clear daylight above the tree-tops, where he found himself on a terrace seventy-six feet above the ground. There were carvings of strange faces, grotesques, and curious twisted shapes everywhere.



79. A Mayan temple overgrown with trees and creeping plants

Catherwood, the artist, could not draw until men from an Indian village near by had been employed to cut down quantities of trees and so let in some light. Then he stood with mud up to his ankles, with gloves on his hands and a net over his head to protect him from flies and mosquitoes, and struggled to reproduce the strange forms and hideous figures which were quite different from anything he had ever had to draw before.

## *Temples in the Jungle*

One of the Indians from the village claimed that the land on which the ruins of Copán stood was his property, and after a little discussion Stephens bought the land for fifty dollars. To the Indians this sum seemed very large for land that was worthless to them. The sale was marked by a celebration, and the villagers came and looked at the ruins and the carvings—and Stephens and Catherwood discovered to their astonishment that not one of them had ever seen them before, although they lived quite close to them.

Stephens went on exploring in Honduras, Guatemala and Yucatan, and found many more ruins of desolate and deserted cities buried in tropical jungle. Who were the people who had erected these buildings, and when, and what had happened to them? Where had they come from?

When Stephens's account of his discoveries in Honduras and Catherwood's drawings were published, many people began to ask these questions.

As it happened, while Stephens was exploring in Central America, another American named Prescott was hunting for and reading all he could find about the Aztecs, and the amazing story of the invasion of their country and the destruction of their civilization by the Spaniards. He published his famous *History of the Conquest of Mexico* in 1843.

The book not only brought the Aztecs and their forgotten civilization back to life again, but also reminded people that the Spaniards had come in contact with the survivors of a race of people who had preceded the Aztecs—people called the Mayas. The Spaniards, too, in their expeditions in the countries south of Mexico had reported seeing vast ruins—the same ruins which Stephens saw again three hundred years later. They were the remains of cities which the Mayas had built centuries even before the Aztecs entered the country.

It was only after years of effort by explorers and archaeologists, and of study by scholars, that something of the strange and mysterious story of the Mayas was discovered, and even now there are many questions which cannot yet be answered.

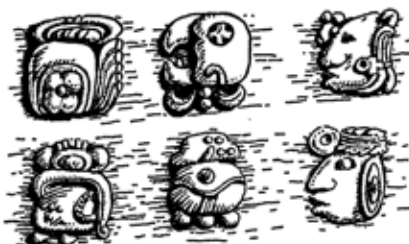
In 1863 a manuscript was found in the Royal Library in



## *Temples in the Jungle*

Madrid which helped scholars a great deal in their search for information about the lost civilizations of Central America. It had been written in 1566 by a Spaniard named Diego de Landa, who had been appointed Archbishop of Yucatan after the Spanish conquest of Central America. De Landa had become friendly with a surviving Mayan prince, and had written down some of the ancient legends which the prince had told him.

But de Landa had done something even more important. He had made drawings of the signs which the Mayas used to denote numbers, and the names of days and months.



80. Mayan signs for days, months and numerals

Some other ancient books were discovered, or re-discovered, during the nineteenth century. These books were written in the Mayan language, but in the Latin alphabet which the Mayas had learnt from the Spanish conquerors. They were very difficult to follow, but as scholars struggled with them they found that they recorded events which had happened in Mayan history—wars, revolutions and so on. They described, too, the wonders of the Mayan capital city, which was called Chichen Itza, up to the time of the collapse of the Mayan kingdom, and they mentioned the names of Mayan heroes and families.

Between 1881 and 1894 an English archaeologist named Alfred Percival Maudsley made seven expeditions to Central America, and brought out drawings and plaster moulds of carvings, and some pieces of the actual carvings themselves.

## *Temples in the Jungle*

When these things reached the British Museum scholars had more material than they had ever had before to work on.

Gradually, by reading such old books as they could find, and by studying the carvings and comparing them with the drawings of the hieroglyphics which de Landa had made, scholars learnt some very strange things indeed about these Indians of Central America who, hundreds and hundreds of years before, without being influenced by any of the nations of the Old World, had built up a great civilization.

One of the most surprising things they discovered was that nearly all the Mayan buildings, and the steles, stood for dates. Nothing was simply there for ornament, and none of the carvings illustrated scenes from private or everyday life. The enormous buildings were like great calendars, and all the carvings had a definite meaning connected with the recording of time. Another amazing discovery they made was that the Mayan calendar was more accurate than any that had been used in Egypt, Sumer, Assyria or anywhere else in the Ancient World.

The Mayan calendar was very complicated, and scholars were many years fathoming it out. Even then it was impossible, for a long time, to link it to our own calendar—to tell how a Mayan date corresponded to a date of ours. The Mayas calculated their dates from a particular day in the distant past (as we now say that events happened so many years after or before the birth of Christ). But the scholars who were trying to learn something about Mayan history could not find out whether the first date recorded any special event, neither could they discover, at first, what that first date would have been in our own calendar.

The Mayas were superior to the people of the Old World in another way. They had invented a sign for zero—something which even the Ancient Greeks, with all their wisdom and learning, had not done.

But the Mayas, having invented a wonderfully accurate calendar, seem to have devoted their lives and all their energies to it.

Mayan temples were something like the ziggurats of Meso-



81. Mayan carving representing a god

potamia, or the Step Pyramid of Egypt, for they rose up from a wide base, and became smaller as they reached the top. Enormous flights of steps mounted from terrace to terrace. The building on the topmost platform was an observatory, with openings placed in such a way that they were directly opposite certain heavenly bodies at certain definite times.

Fresh buildings, or additions to old ones, seem to have been constructed at regular intervals to mark the passage of time. Ceremonies and magic rites were performed to appease the

## *Temples in the Jungle*

powerful gods who, the Mayas believed, governed the movements of the heavenly bodies, and who were constantly destroying or re-creating them.

One very surprising thing about the early Mayas was that, although they erected mighty buildings, and were clever mathematicians, they were still living in the stone age. Their tools were all made of stone or wood, and they used only a very little metal—gold, copper and bronze—for ornaments, and for ceremonial purposes connected with their religion. They had no domestic animals, except dogs, and never invented the wheel, either for vehicles or for making pottery. They grew maize by making holes in the ground with a digging-stick, for they had no ploughs. Neither did they make weapons, for they seem to have been a peaceful people. Their cities were not defended, and they had no castles or forts.

As scholars studied the buildings left by the Mayas, and learnt to read the dates, they discovered something else that was very surprising indeed. You remember that Copán, where Stephens found his first ruin of a Mayan temple, was in Honduras. The ruins of Chichen Itza, which the Mayan books written in the sixteenth century described as having been the Mayan capital city, were about two hundred and forty miles farther north, in Yucatan. There were certain differences between the architecture of the cities of the south (which were very much older) and those of the north. It seemed clear that the Mayas of the northern cities had become associated in later times with some other race or tribe.

Gradually archaeologists realized that there had been an Old Kingdom of the Mayas in the south and a New Kingdom in the north. But the New Kingdom had not developed gradually from the old. About the year A.D. 610, which was quite late in Mayan history, the whole Mayan nation simply deserted their palaces, temples and cities in the southern area and migrated farther north, where they cleared virgin jungle and erected totally new cities.

No other example of anything quite like this has ever been discovered in any other part of the world. Why did the Mayas

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behave in this strange way? There is no trace of damage to the southern buildings, such as a conquering enemy would have inflicted, and in any case no other race occupied the buildings or the country surrounding them after the Mayas left.

No violent upheavals, such as earthquakes or floods, drove the people away. It is not very likely that some severe epidemic killed large numbers of them so that the survivors decided to leave, for there is evidence that hundreds of thousands of them settled in the new districts.

All kinds of explanations have been suggested, and the one that has been accepted as possible by a good many archaeologists is that the Mayas suffered because they gave so much attention to mathematics, religion, astronomy and building, and did not bother to learn much about the very necessary arts connected with agriculture. Their descendants still clear a little bit of jungle by cutting down trees and burning them. Then they plant maize in holes made with a digging-stick. When one bit of land is exhausted, they clear another piece.

This method serves for a small village population. But the great temples and palaces of the Mayas must have housed large numbers of priests, rulers, officials and their servants. Gradually, perhaps, the land surrounding each city became exhausted, and the farmers had to move farther and farther away to find fresh land to clear.

At last the clever mathematicians who had invented the finest calendar in the world could think of no better solution of the problem than to move the whole population two hundred or more miles away and start all over again.

Slowly, as the centuries passed, the jungle crept back and flowed over the deserted cities, till they were lost to sight, and even the Mayas themselves, probably, in their New Kingdom, forgot that they had ever existed.

More centuries passed, until at last the New Kingdom also came to an end. The Aztecs became the ruling race, with their principal city far away in Mexico. The cities of the New Kingdom of the Mayas were also deserted, and the jungle took possession of them.

## CHAPTER XXIII

### *The Sacred Well of Chichen Itza*

One of the Mayan legends which the Spanish Archbishop, Diego de Landa, had written down, was about a Sacred Well near the Mayan city of Chichen Itza. According to the legend, in times of trouble or difficulty the people of the city had gone in procession to the Well, and the priests had performed solemn ceremonies. Then they had flung beautiful young maidens into the pool, and gifts of gold, ornaments, and other precious things, for the gods who lived at the bottom. The Pool was so deep that nothing that was thrown in was ever seen again.

No one had taken very much notice of such stories as this until towards the end of the nineteenth century. Then a young man named Edward Henry Thompson read the book written by de Landa and, like Schliemann when he read Homer's Iliad, accepted what it said as being absolutely true.

Thompson spent several years exploring the jungles of Central America. He lived with the Indians, learning to speak their languages, and hunted for the remains of Mayan cities. At last, at Chichen Itza, he turned his attention to the Sacred Well. He found, near the ruins of the great temples, a big oval pool, one hundred and eighty-seven feet long. It lay in a deep pit, the surface of the water being sixty-seven to eighty feet below the ground level of the jungle. The water was dark and very deep. By the edge of the pool were the remains of a stone shrine.

## *The Sacred Well of Chichen Itza*

Thompson was determined to explore the pool. In the United States he managed to raise enough money for the task, though most of the people who provided it thought he was mad to make the attempt. He even went to Boston and had lessons in deep-sea diving.

At last he was back at Chichen Itza with a derrick and dredging apparatus, and a number of men to help him. First he had logs of wood cut roughly to the shape and size of human beings, and flung them into the pool from the ruined shrine, so as to have some idea of where to start work. Then the dredge was swung out over the pool and lowered down into the black water, which he had discovered was about eighty feet deep.

Up and down it went, again and again, and for days it brought up nothing but dead leaves, logs, the bones of drowned animals, and other rubbish. Thompson was beginning to despair. Then one day two yellowish white lumps of some peculiar substance came up. Thompson puzzled over them, and at last held them over a fire. A strange scent arose—the lumps were of perfumed resin. Thompson felt sure he had found lumps of the incense the Mayan priests had used in their ceremonies. It was the very first hint he had received that he was not wasting his time and the money which had been given to him.

But soon there was no doubt at all. The dredge began to bring up all manner of things—ornaments, bowls made of jadeite, knives made of a hard stone called obsidian, lance heads, vases, and at last, parts of human skeletons.

After a time Thompson and a Greek diver he had engaged went down themselves into the depths of the pool. They took flash-lights with them, but these were quite useless, as the water at the bottom was a churned-up mixture of mud and water, thick and quite dark. They had to feel about with their hands. They found a great store of precious and interesting things, as well as the bones of many young girls. They had proved that the story which the Mayan prince had told de Landa was true.

## *The Sacred Well of Chichen Itza*

There was another book in existence which had been written soon after the conquest of Central America by Spain. Its author was an Aztec prince named Ixtlilxochitl. He had become a Christian, and had learnt Spanish, as well as being able to read the ancient hieroglyphics of his own people.

He had written down what he had been told about the people who lived in Central America before the Spaniards came—but no one in later generations believed in his history, or took it seriously. For Ixtlilxochitl said that many centuries earlier a race called the Toltecs had founded a city called Tula in Mexico, where they built palaces and temples. These Toltecs had been able to write, and calculate, they had a calendar, and they made wise and just laws, which were quite free from the cruelty which became a part of the law and religion of the later Mayas and Aztecs. Their civilization lasted, said Ixtlilxochitl, five hundred years. Then there were famines, wars, and other disasters, and their nation collapsed before another race. The remnants migrated, and finally settled in Yucatan, where they mingled with the Mayas.

It is only during this century, and particularly since the last war, that archaeologists have excavated Tula and other Toltec sites, and have discovered that a great deal of what Ixtlilxochitl wrote was true. The Toltecs were in Central America before the Aztecs arrived, and they did build pyramids and temples in honour of their god, who was represented as a plumed serpent. They were the people whose influence the archaeologists had recognized in the Mayan buildings at Chichen Itza.

During the last few years many places in Mexico and other parts of Central America have been excavated. Foundations and strange carvings have been found under several feet of earth and debris. Pyramids which have been hidden, or ignored, for years, have been uncovered. One was even larger than that of Cheops in Egypt, with a bewildering maze of passages inside it.

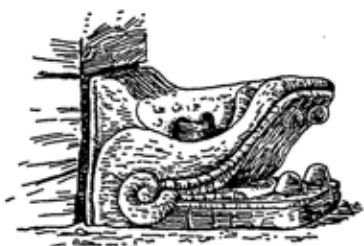
Aeroplanes have flown over unexplored jungle and mapped out more ruined and deserted cities which no one knew about.



## *The Sacred Well of Chichen Itza*

More fine temples from the Mayan Old Kingdom have been discovered, some of them decorated with wonderful wall-paintings showing gods and priests performing religious ceremonies. At one place a stele over nineteen feet high was found, twice as large as any found before. Great fields of ruins are being excavated in Mexico.

Gradually, with modern ways of excavating, and by using modern methods of dating, archaeologists are solving some of the mysteries connected with the civilizations which succeeded one another in Central America.



82. Snake-head base of a column

Some of the ruins, such as one which is called the Temple of the Warriors at Chichen Itza, to which such people as Thompson had to fight their way through great difficulties, can now be visited quite easily. Good roads carry motor cars right up to it. Large areas of jungle have been cleared from all round it, so that men can now see it clearly and can imagine what it looked like hundreds of years ago, when the Mayas built it after deserting their Old Kingdom. They can marvel at the terrifying stone faces, the enormous snake-heads, the hideous gods which the ancient sculptors carved.

They can share the astonishment of the early explorers when they realize that even the columns which originally supported the roofs of some buildings, represented the erect bodies of great snakes, with their heads pressed close to the ground, their mouths wide open and their tongues darting out.

## CHAPTER XXIV

### *More Wonders still to Come?*

Not much more than a century has passed since men began digging here and there in rather a casual fashion, not knowing in the least what they were going to find—and we have seen how wonderful the results have been. The story of mankind has been taken back countless thousands of years; great nations which no one knew had ever existed have been rediscovered; forgotten languages have been read.

During these years of experience archaeologists have learnt, too, *how* to dig and how to extract even the most fragile things from the earth in such a way that they can be preserved and, if necessary, reconstructed. Excavators no longer write in their reports that precious things 'fell to pieces on exposure to the air'.

When the earliest excavators first began to find inscribed tablets of unbaked clay, for instance, in the soil of Mesopotamia, such tablets were often packed in boxes or baskets and carried long distances by pack horse or ox wagon. At the end of the rough journey there was sometimes nothing left but a mass of dust and some useless scraps of clay. Sir Leonard Woolley, who excavated at Ur nearly a century later, tells us how, when tablets are dug out from the damp soil, they are often as soft as cheese and are coated with earth. The modern archaeologist immediately packs them in boxes full of dry sand, and when they have dried out a little he bakes them on the spot in a kiln he has made for the purpose. Then they are hard, and can be cleaned without damaging the inscriptions, and can travel without collapsing into dust.

## *More Wonders Still to Come?*

In modern archaeological work nothing is moved until all possible measurements have been recorded, the exact position of everything has been most carefully marked on plans and diagrams, and photographs have been taken.

Fragile things, such as thin metal objects which may already have been damaged by the weight of earth above them, or which have partly collapsed because the wood, fabric, or other material to which they were originally attached has rotted away, have to receive special treatment before they can be removed. As much soil as possible is carefully brushed or blown from the surface. Then boiling wax is ladled over and around the object, and muslin dipped in hot wax is pressed down over it. The soil is then dug away from under the object until it is supported on a thin column of earth and can be gently tilted over on to a padded board. Then the earth from the underside is carefully removed and more wax and muslin are applied. The object, now completely enclosed, can be packed and carried safely to the museum where experts will steam away the muslin and remove the wax and will give the object whatever treatment is necessary to harden or soften it, to clean it, and, so far as possible, to restore it to its original shape and appearance.

One of the exciting things modern archaeologists can do is to find out what a piece of furniture, a musical instrument, or some similar artifact was like when there is practically nothing left at all because almost all the material of which the article was made has disappeared.

When wood rots away it sometimes leaves a hole in the earth which does not get filled up. One of the most important graves at Ur was discovered because, when the grave was filled in, a spear was left standing in the corner. The archaeologists who excavated the area thousands of years later found the copper spear head standing point upwards in the ground, Beneath it was a hole where the wooden shaft had been, which led them down to the grave. But holes are not always simple in shape and easy to explain as this one was. When a cavity of strange or unusual shape is found the archaeologist

## *More Wonders Still to Come?*

pours plaster of Paris into it, and when it has set he has a complete plaster cast of an object which may have completely disappeared hundreds or thousands of years ago.

The harps at Ur were found in this way. The copper bulls' heads and shell mosaics which had originally been attached to the wooden frame of the harps stuck to the plaster—and it is easy to see that if these had simply been dug out of the earth no one could possibly have known what their original purpose had been or the shape of the object they had adorned.

In a short book such as this one it is only possible to mention a very few of the most striking or interesting things that archaeologists have done during the past century. For some years they have been working patiently in almost every part of the world—in Africa, India, China, North and South America, the Pacific Islands, Europe and Asia. Everywhere they are finding things which gradually tell us more about man's past, and about the rise and fall of the many civilizations the world has known.

Even in ancient, much-explored lands such as Egypt new discoveries are constantly being made. As this book is being written a mastaba, or tomb, of a first dynasty king (about 3000 B.C.) is being excavated with, in a pit near by, a funeral-boat centuries older even than that found near the Pyramid of Cheops.

An unfinished pyramid, too, has been discovered near Sak-kara, completely buried under the sand, and its entrances are being excavated and its galleries are slowly being explored. All kinds of ancient objects are being found as the blocked passages are gradually cleared. Hundreds of copper tools and instruments, flint knives, a large number of stone vessels, and a collection of jewels, including some gold bracelets which are the oldest ever found in Egypt, have come to light.

One of the most interesting discoveries is an ivory plaque on which is the name of a king who was the son of Zoser, the builder of the first or 'Step' Pyramid. Presumably this was the king for whom the unfinished pyramid was being prepared.

## *More Wonders Still to Come?*

This is the first time that tools and other objects have been found in the passages of a pyramid. Who can say what more there is to discover—or what there may be in the burial chamber if and when it is found?

In Palestine some strange and exciting discoveries are being made by the people who are excavating the great tell which covers the ancient city of Jericho. We read in the Bible (Joshua vi) that when the Israelites entered the Promised Land of Canaan, the walls of Jericho fell after the priests of Israel had blown on their trumpets and the Israelites had given a great shout.

Modern archaeologists have discovered that the walls of Jericho were apparently destroyed by some upheaval such as an earthquake, which may easily have happened at about the time when the Israelites arrived—about 1400 B.C. But underneath the ruins of this last city of Jericho they found no less than *seventeen* layers of buildings. Layers nine to seventeen, as they went down, were occupied by people who knew nothing about metals (that is, they belonged to the Neolithic, or New Stone Age period), and in levels ten to seventeen there was no pottery—although pottery is one of the earliest crafts to be practised by settled people.

Although these early settlers at Jericho were so primitive that they did not know how to make pots, they yet lived in solidly built houses with plastered walls and floors, and, most surprising of all, around the settlement was a massive defensive wall.

Was Jericho the first walled town in the world? Was it even, perhaps, the first, or one of the first, spots on the earth's surface where men settled, and began to cultivate crops on the land around them, and where they first herded cattle, sheep and goats? It is quite possible.

Some of the most amazing things found at Jericho from this very early Neolithic period, were some portrait heads which had been made by modelling plaster on to actual skulls. The eyes were represented by two segments of shells, with a slit in the centre to represent the pupil of the eye. They probably

### *More Wonders Still to Come?*

date from about 5000 B.C. They are the very earliest examples of sculptured portraits ever found anywhere.

Other surprising discoveries have been made in Palestine. For example, fourteen human skeletons were found some fifty-four feet down in a cave on Mount Carmel. They belonged to men and women who had lived in the cave between fifty thousand and a million years ago, and who seem to have belonged to a mixed race mid-way between Neanderthal man and Modern man.



83. Jar in which some of the 'Dead Sea Scrolls' were found, and fragment of a scroll

In another cave in Palestine, near the shores of the Dead Sea, a Bedouin shepherd, by chance, found a number of pots in which leather scrolls wrapped in linen were packed. They turned out to be hand-written copies of parts of several books of the Old Testament, and were written about two thousand years ago. They are by far the oldest copies in existence of any books of the Bible, so far as we know at present.

Since then more caves in the district have been explored, and many more fragments of Old Testament manuscripts have been found. A building has been discovered and excavated in which the people who wrote the scrolls and concealed them in the caves may have lived.

## *More Wonders Still to Come?*

Hardly a month passes that some fresh discovery is not made somewhere in the world. Something puzzling and unexpected is turned up by the archaeologist's trowel—or the less gentle spade of a manual worker—and facts are brought to light which give us new information, or correct previous ideas.

The things discovered are not always, by any means, valuable in themselves—a few battered stones, perhaps, or traces of decayed wood or metal—but they tell the expert about structures the very existence of which was unguessed at until that moment.

Even objects which are in full view of us all may still have something surprising to tell us. Only quite recently, in 1953, someone noticed that on one of the sarsen uprights at Stonehenge there were carvings of a dagger and an axe of Mycenaean type. The carvings only happened to show up, and to be noticed, when the sun was low, and so threw up the irregularities on the stone's surface.

The hilt of what is now recognized as a Mycenaean dagger of about 1500 B.C. was found in an English barrow many years ago, and an amber disk bound with gold, exactly like some found in a tomb at Knossos in Crete, was discovered in a barrow in Wiltshire.

What was the connection between Crete and Mycenae, and the men who worshipped at Avebury and Stonehenge?

Often for long years on end the work of archaeologists may be tedious and disappointing. But gradually, as their discoveries, even those that may seem most commonplace and unexciting, are compared, our knowledge grows.

We may be sure, too, that the thrilling and amazing discoveries do not all belong to the past. Hidden away beneath our feet there may be yet more palaces, such as that of Minos, more lost civilizations such as that of Mycenae and Sumer, more treasures such as those of Tut-ankh-Amen, more hidden mysteries such as those which were concealed by the jungles of Central America.

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