ARCHÆOLOGY AND THE GOLD COAST

(ADAPTED FROM A SERIES OF TALKS BY C. T. SHAW OF ACHIMOTA COLLEGE BROADCAST FROM Z.O.Y.)

INTRODUCTION

In this pamphlet my aim is chiefly to speak about archæology in the Gold Coast. But, before I can do that, it is necessary to consider what archæology is. We shall also have to consider what its achievements have been in other parts of the world.

What is Archæology ?

The word archæology is derived from two Greek words. Put together, they come to mean "The study of ancient things." That is the meaning of archæology. The word "ancient" is a relative term. By that, I mean that one thing may be said to be "old"; something else may be called "very old"; and yet another may be described as only "fairly old". For example, we might call St. Paul's Cathedral, built in London about 1700 A.D. "fairly old"; we might call Westminster Abbey, built about 1250 A.D., "old"; and we might call Hadrian's Wall, or the Colosseum at Rome, "very old". They have been standing for not far short of 2,000 years.

These, then, are all old things. And archæology is concerned with all old things. You may say "But I thought it was history which was concerned with old things, and with the story of the past." That is perfectly true, and that is where we come to a closer definition of archæology. We said that archæology studies old things. History writes the story of the past from written documents—from official records, from contemporary descriptions, from letters and newspapers and other recorded evidence.

History writes the story of the past from written documents, but it is when the written record is incomplete that archæology comes in. It gives other evidence, from the study of ancient things. Sometimes, and this is more important, it provides some record of the past, where written documents are entirely lacking. This kind of archæology is called "Prehistory", because it is concerned with the time before any history was written.

Historical Archæology

Let me give you some examples of these two different ways, in which archæology can contribute to our knowledge of the past. A certain amount was known about Britain and its history during the time of the Roman Occupation from about 2,000 to 1,600 years ago from Roman writers like Cæsar and Tacitus. Archæological study of Roman Britain, however, has given us a far more detailed picture than we could ever have had from the historical records alone. These results were achieved mainly from the accumulated findings made in excavations. By excavation, I mean careful digging at places where people lived, or where they buried their dead, or at the fortified places garrisoned by soldiers. I shall have more to say about excavation later. I might as well point out at once that it is the chief method of research which the archæologist uses. I want you to remember that when I come to speak about archæological research in the Gold Coast.

I have shown how this type of study in Britain has told us three-quarters of what we know of the Roman period there. It is quite possible that, at some future date, similar research in this country will tell us far more than we know at present of the history of the last five hundred years. The history of the early part of that period is founded on somewhat meagre records.

That, then, is one part of archæology—illuminating the historical outline where that is faint. It is, however, only a small part of archæology.

The greater part is concerned with unravelling the history of Man on the earth before anyone wrote down anything to tell us about it. This is the story of Man's life before history begins, and is called "Prehistory". Historical records of this country are of comparatively short duration. Archæological investigations in this country would, therefore, be principally concerned with "prehistoric" research. In other parts of the world prehistoric research has revealed to us whole sequences of different stages in man's development. To take an example from England again: before prehistory taught us differently, it was believed that no one except the ancient Britons had lived in England before the coming of the Romans. They were supposed to be nothing but savages, who painted themselves blue, and were ruled over by a blood-thirsty priesthood of Druids. Prehistoric research has corrected this view. It has shown that the people the Romans found in Britain possessed a moderate degree of culture. They had been preceded by a great number of people in different stages of development. Generally speaking, they were progressively more primitive the further back you go. Thanks to prehistoric archæology, we have almost as complete a picture of much of the life in Britain in the days before history, as we have of life in the Dark Ages.

Prehistoric Archæology

The usefulness of Archæology

What, you may ask, is the use of archæology? What good does it do to spend time poring over old things, belonging to civilisations past and gone? Why not let the dead bury their dead? Why not pay all our attention to trying to make the future of the world a little less of a mess than it is at present? I can answer that question best in the words of a very great archæologist, Sir Leonard Woolley :—

General Usefulness

"We cannot divorce ourselves from our past; we are always conscious of precedents, not least so when we flout them, and we let experience shape our views and actions; when tradition is absent, or crystallizes into an unreasoned convention, as it has done with the Australian Bushman, progress stops. But the past to which we appeal must be in a sense our own, precedents set by men conditioned much as we are, the experience of races, or individuals morally akin to us; its value is proportionate to the degree of continuity by which we are linked to it. The political thinker of a hundred years ago would cite his parallels and draw his arguments from the Roman or Greek world, finding that cognate with his own, but there he stopped short; Greek civilisation presented itself to him as something full grown with no history behind it and giving little opportunity for observing development and cause. To-day we can see that modern man did not begin his career in 500 B.C., not even perhaps in 5000 B.C.; from the flower of Attic culture we can work back and find the roots spreading far afield, and sending up perennial blossoms, all differing with the nature of the soil and the tending which they have received, but all of one stock, and in the light of such knowledge we can better judge and control the present and future growth. And this enlightenment is not merely for the specialist, for the research student in history. The opening up of the world affects us all. It becomes part of the general intellectual inheritance, and the justification of archæology is that it does in the end concern everyone. Its direct appeal is due to the fact that, compared with natural science, it comes with simpler introductions. Its subject is modern man. It is not a universe which resolves itself more and more into an intellectual abstraction, and its material is the work of man's hands."

Thus Woolley shows how all the wonderful revelations of archæology have made possible a much profounder understanding of the present. Without such understanding, we cannot hope to control the future. But our picture of the past is not complete. And one of the areas where it is most incomplete is West Africa. This shows the importance of archæological research in the Gold Coast. But this is not only important for what it adds to the general picture, or for the light that is thrown on modern man in general by his progress in the past. It also has more local and immediate usefulness.

Usefulness to the Gold Coast

To begin with, it has an interesting place in the growth of the Gold Coast to full manhood as a nation. It is a curious thing that the early stages of society seem, almost like adolescents, to exhibit a kind of shame of their childhood. They want to make a clean break with the past. But when they grow to manhood and begin to take their place among the nations of the world, they realise the value both of their near and their remote past. For example, the patriotic worth of prehistoric archæology was self-evident in countries like Czechoslovakia and China, resurgent nations of the post-war era, to men like Masaryk and Chiang Kai-Shek.

In the second place archæology has a more immediate and practical value. Principles at work at all times in a country may be clearer in the prehistoric record than they are in a historic record filled with obscuring details. Here is an example of archæology revealing such a principle. Near the little town of Thoreau, New Mexico, in the United States of America, you will come to desolate Chaco Canyon. It is treeless, and grotesquely sculptured by wind and sand. You can drive for miles and never meet a human being. Yet vast ruined villages suggest that at least one hundred thousand people once lived here. This lonely canyon was then probably the most populous part of America. People used to think that it was ages ago when these people flourished. But archæology has now corrected that idea. It has shown that the Chaco was flourishing when William the Conqueror invaded England in 1066 A.D. It was probably inhabited until the twelfth century, but then, the record shows, these great villages were abandoned. Why? After they had studied all the prehistoric evidence, archæologists were satisfied that a crime against trees made the abandonment necessary. Forests originally grew at the edge of the Chaco. Ceiling poles and supports for roofs were of pine. This pine must have been close at hand when the American Indians built their villages, for they had no beasts of burden. To-day the nearest pine forests are 60 miles away. So large a population must have used a great quantity of wood, and so the forests were gradually destroyed. As the tree border receded, moisture was no longer held in the ground. The rains, rushing off with erosive force, cut a precipitous gash through the canyon. A man-made desert intruded where fields and forests had been, and so man had to depart.

The implications connected with the question of forest reserves contained in this story should be obvious in an area like the Gold Coast, where it is so important to conserve forests and the soil.

Thus we can see the need for archæological study in the Gold Coast for two reasons. We require it as part of the general picture of man's past, as a guide to the understanding of some of our present-day problems, and we require it to give background and stability to new African culture.

Need for Archæology in the Gold Coast

The work of the archæologist is like that of a builder erecting a house. The house is the aim in view for the builder. Before he can produce a house, he has to study architect's plans, he has to get ready his bricks or concrete blocks, he has to prepare his cement and mortar, he has to cut roof timbers to the correct shapes and sizes, he has to get tiles or corrugated iron sheets for the roof, he has to see that he has the nails to fix them. Having paid attention to all these things, the builder does not merely arrange his materials on the ground. He builds a house. Similarly, the archæologist, having carefully collected and studied all the ancient things he can find, does not just leave them neatly arranged in cases in museums. From them he does his best to reconstruct a picture of the life of the people of a country in the past.

THE REVELATIONS OF ARCHÆOLOGY

Now before dealing specifically with the Gold Coast, let us look at a brief outline of the revelations of archæology in other parts of the world, so that we may see where the Gold Coast fits in to the story.

Before archæological research was undertaken, our knowledge of the past was confined entirely to what we knew from written history. From these sources it was known that there were ancient empires in Mesopotamia, in Egypt and Persia. One of these sources is the Old Testament of the Bible, which gives us some useful pieces of ancient history. One very old historical document—the poems of Homer—told us something of conditions in the Eastern Mediterranean area at the beginning of the first millennium B.C., and of the war between Greeks and Trojans. But, until the substantial truth of Homer was proved by archæology, Homer was dismissed as a myth, as a fanciful minstrel's invention. From 500 years or so B.C. we have fairly good written records of a good many parts of the Mediterranean area. Later, we have accounts of the area covered by the Roman Empire. But apart from these records we knew nothing. No civilisations more ancient than those of Assyria and Babylon were imagined. Northern Europe was believed to have existed in a state of more or less uniform and unvarying barbarity until the arrival of the influence of Rome. And no very great antiquity was assigned to Man on the earth at all. In the sixteenth century one eminent authority gave the date of the creation of the world as 4004 B.C.

Limitations of Written History

Going back to the oldest time when Man existed on the earth, the archæologist finds he is very much indebted to the geologist—the man who knows all about the earth, and the age and the formation of the different kinds of rocks.

Help from Geology

You are all familiar with the story of the creation of the world as told in the book of Genesis ; how God made different parts of the earth in five so-called " days " and on the sixth " day " he made Man. That is the story of the Creation, told according to the beliefs and traditions of Hebrew folk-lore of a very long time ago, when people did not know many of the facts of science—such as that the earth is a sphere. Yet science, and in particular geology, the science of the earth, has found that that story of the world coming into being in stages, and Man being the last new thing created, is substantially true. Only, it is seen now, the whole process took a very much longer time than was at first thought. The word " day ", in the Genesis story, only means a " period of time ". We now know that those periods of time are reckoned in millions of years. This does not really detract from the Genesis stories. They are the speculations of the poet-philosophers of old Babylonia. That they are so regarded by eminent Churchmen is evident in the following quotation from a recent English commentator : " We no more expect modern scientific knowledge in the Bible than we expect to find it in the early writers of Greece or Rome. The Hebrew writers use the knowledge of their own day, their own views of the universe, their own geography and cosmogony. Their value lies in the way they took this and used it as a vehicle for spiritual thought at such and such an age." Now that we know about the Creation in greater detail, it only makes it ten times more wonderful.

The Genesis Story of Creation

Study of the different rocks of the earth has shown that many of them contain the skeletons of animals that were living millions of years ago. Others contain the marks of trees and plants of the same great age. You may ask how the age of the different rocks is known. This is really a question for a geologist, but it may here be said that the age of the earth and the various rocks that go to make it up is computed from the study of radio-active minerals, the breakdown of which gives us a readable geological clock. In this way the age of the earth is established at something near two thousand million years and the oldest forms of life at over 500 million years. For in some of these various layers of rock which we can date, occur the remains of plants and animals, which we call fossils. The age of these fossils is given by the age of the rocks in which they occur. Many of these fossil remains show us plants and animals which no longer exist : but a careful study of their forms has shown that the ones which occur in the oldest rocks are the most simple forms of life : in succeeding rocks, we see more developed forms appearing, and so, gradually, one form arises from another in the process known as " organic evolution " ; of all these

Fossils

Evolution

many different forms, some have survived, some have died out. Those which have survived are the forms of life, the plants, the trees, the fishes, the reptiles, the birds, the animals and the men we know in the world of to-day. And in the record of the rocks we can trace through the ancestors of all these different forms of life, back to their beginnings. This development of the different kinds of living things is the concern of those whose special study is that of living forms, the biologists. It is not the concern of the archæologist. But the archæologist is concerned with the development of Man ; and this is where, at the beginning of Man's story, archæology, biology and geology meet.

The Antiquity of Man

The number of finds of fossil men or their immediate ancestors is not large. Nevertheless, quite a number have been found, and the geologists have told us the age of the beds in which they occurred. From this it becomes evident, that primitive forms of men were beginning to appear on the earth, about a million years ago. They did not look like modern men ; they had protruding mouths with no real chins, foreheads overhanging their eyes, thick skulls and small brains, and some of them were unable to walk quite upright. They had developed out of certain ape-like creatures who were also ancestral to the modern apes. Notice, therefore, that it is wrong to say, " Men are descended from monkeys " : what is true is that Man, and the modern apes, are both descended from a remote common ancestor. Just as with other animals, we have the fossil remains of types that have died out, so we have a number of fossil men of types that died out. Actually we have more of these than of the true, direct ancestors of modern man.

The Earliest Tools

Perhaps the most important difference between these first men and their ape-like ancestors was that they used tools—very crude tools indeed, barely recognisable as such, but tools nevertheless. An ape may use a stick or a stone that is handy for some immediate purpose, but these early men did more than choose the nearest convenient stick or stone. They not only chose a sharp stone, but they struck it with another stone to make the edge sharper. With their artificially sharpened stone they were able to sharpen a stick into a point : both these were implements and were kept for future use. It is chiefly the stone tools of this very remote time, that have come down to us.

The Old Stone Age

This is the period which is called the " Old Stone Age ", because it is the older part of the period, when no metal was known, and tools were made principally of stone. They were also, of course, made of wood and bone but these have mostly perished. It is the longest of all the periods of Man's history, lasting over half a million years. During that time, we see a very slow but nevertheless, on the whole, a steady progress in the variety and specialisation of stone implements, and of skill and technique in chipping them. During all this long period, Man only had the skins of animals for clothing ; caves and roughly-constructed wind-breaks of boughs for shelter, and he had to gather his food where he could find it growing, or follow the animals he hunted. In the second half of this period at any rate, he possessed fire, and already buried his dead in a ceremonial manner, suggesting a belief in some form of spiritual existence. The population of the whole world was comparatively small, although remains of the period cover nearly the whole of Europe and Asia, North, South and East Africa. North and South America were only colonised, from the East via the land-bridge of the Aleutian Islands and Alaska, at the end of the period.

The Neolithic Revolution

Some time before the fifth millennium B.C., more than 7,000 years ago, began the first great change in the way of life of mankind. It was a social and economic revolution, comparable to the Industrial Revolution of Europe a hundred and fifty years ago. But it was much more important. Throughout the whole history of Man hitherto, he had been a food-gatherer : he had made improvements in his stone implements, he had even at one stage reached an astonishingly high level of artistic achievement in painting and sculpture on the walls of the caves he frequented ; but the manner of getting his livelihood remained substantially the same ; he collected edible seeds, nuts, berries, roots and fruits ; he hunted and trapped game and caught fish. Now came a big change : instead of collecting his food from Nature, Man began to produce it artificially himself : he learnt how to sow grain and harvest the wheat ; at about the same time, cattle, sheep, pigs and goats were domesticated. So with mixed agriculture and stock-raising, Man became a food-producer instead of a food-collector. This has the advantage of making possible a more settled existence. It increases population, the security of life, and leisure to do other things. Three subsidiary inventions came at the same time—the art of making pottery, of weaving, and of making a sharp edge on a stone implement, not by chipping, but by grinding against another suitable stone. For we are still in the Stone Age : but it is a period of only two or three thousand years following the half million years of the Old Stone Age, and it is known as the " New Stone Age ". This New Stone Age revolution first took place in the area of the Middle East.

The Urban Revolution

Some two thousand years later, more than 5,000 years ago, the second great revolution in the human way of life was taking place. This really brings us to civilisation. The word " civilisation " is often loosely used, but it really means " a living in cities ". Its use might well be restricted to that meaning. In this second revolution, men began to live in much larger communities than before. All kinds of inventions and innovations had been made to make this possible if not inevitable. For although, after the New Stone Age revolution, and the change-over to a

food-producing economy, men lived for a long time in scattered communities of villages, this neolithic economy suffered two disadvantages. There was a limit to the land available under the system of shifting cultivation they employed, and their welfare was dependant on one thing alone. Even so, new inventions continued to be made. Metal was discovered ; first copper, and then tin, and the art of alloying tin with copper to make bronze, which is much harder than either ; then the wheel was invented, both the potter's wheel and the wheeled carriage ; the brick was invented for building : trade began with distant parts, for metal ores and precious and magic stones. Most important of all when men began to congregate in larger and ever larger villages, as the farmers began to produce a surplus, more and more people were withdrawn from the primary job of food production, and specialised in subsidiary crafts. Furthermore, these large communities were no longer self-supporting ; they depended on trade to sustain their economy. So cities grew up in Egypt, in Mesopotamia, and in the Indus Valley in Northern India. The other great invention of this time was writing. This facilitated the concentration of power and wealth in the hands of certain classes, which this second revolution had in any case tended to bring about. It also made possible a revolution in human knowledge and the beginnings of astronomy and mathematics.

Thus the first towns arose, and the towns grew into great commercial cities ; they sometimes went to war with one another, for the same reason as wars are waged nowadays, the protecting or gaining of economic advantages in trade and commerce. From war arose slavery, and the pattern of a class-divided society was complete. Ultimately, the great cities, which waged successful wars, developed into the ancient empires of Babylon and Assyria, Persia and Egypt. Finally the last great ancient discoveries were made, the domestication of the horse and the art of smelting iron and making iron tools and weapons.

Archæology alone has revealed this amazing story, from the evidence of hundreds of excavations in Europe, Asia and Africa. It has also revealed the story of how the ideas connected with the two great revolutions in the Middle East area spread, at uneven speeds and with varying completeness. In this way the true background and perspective was given to the ancient civilisation of Greece. We had long wondered at this background, from a perusal of written records, but we had not properly understood it until the pre-historic background had been filled in, and the many gaps in the historical record were supplemented by archæology.

THE GOLD COAST

We have seen that the first, and by far the longest period, of Man's development, was the Old Stone Age, and that remains of different stages of this period have been extensively found in North, South and East Africa. What of West Africa ? Have chipped stone implements of the type usually assigned to that period been found here ? The answer is " Yes—but in very much smaller numbers than in East and South Africa." For this reason, some people have said that West Africa was practically uninhabited in the Old Stone Age, and that the tropical forest was more than the poorly equipped men of those days could cope with. Furthermore, many such finds of Old Stone Age-type chipped implements as have been made, have been surface finds. They were not embedded in different layers of gravel, so that it is not possible to tell their relative ages. I believe the lack of evidence in West Africa about the Old Stone Age is due, not to its not being there, but to the lack of research to investigate it. That the Old Stone Age was not represented also used to be said of the Congo : but recently, Dr. Cabu, the Government archæologist, has found in position in different layers of gravel, whole sequences of stages belonging to the Old Stone Age.

The Old Stone Age

Another factor which has tended to hide evidence of the Old Stone Age in West Africa is the thick vegetation.

Stone Implements

In the Gold Coast the men of the Old Stone Age used mostly quartz, quarzite, and sandstone, which is both more difficult to chip and, to some people, more difficult to recognise. Possibly it is partly because an implement chipped out of quartz or quarzite may be more difficult to recognise than one made of flint or obsidian, that more ancient chipped implements have not been recorded from the Gold Coast. They look too much like ordinary untouched stones, and it takes some experience and training to recognise them. This difficulty of distinguishing artificially chipped from naturally fractured stones is perhaps the first and last difficulty in studying the Stone Age.

Flint and obsidian have a conchoidal fracture—that is, it is like a shell in shape. If a blow with a heavy stone is struck on a tabular piece of flint (*See* Fig. 1), the force of the blow does not travel in a direct line through the block, but spreads outward in ever-widening rings until it reaches the other side, when a cone of flint drops out. Now if the blow is struck near the edge of the block of flint in a certain direction, the force of the blow on the outer side " escapes " along the surface ; the force of the blow on the inner side, travels in the same manner as before, by beginning to make a cone : then, however, instead of completing the cone, it finds there is less resistance near the edge of the block of flint and so swings back towards the edge and cuts its way out to the outer side by a shorter route. (*See* Fig. 1.) The incipient cone or swelling on the detached flake is called the " bulb of

How to recognise them

percussion," and is very useful for recognising human handiwork. Now although there is no flint or obsidian in the Gold Coast, most of the kinds of stone used for implements have a semi-conchoidal fracture—that is, they behave in much the same manner as that described for flint above, but not to quite such a marked degree.

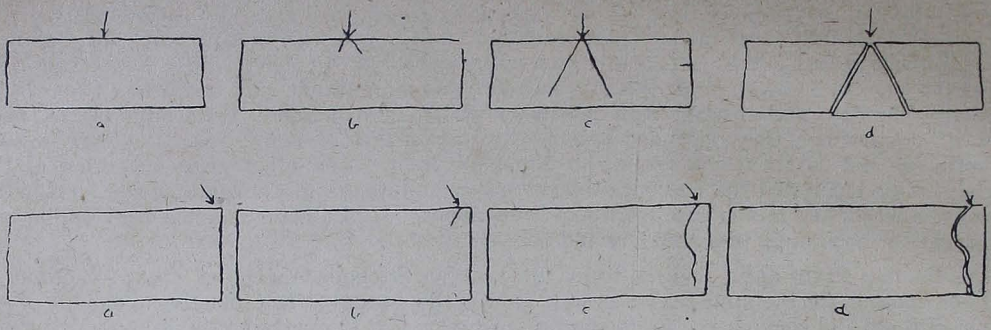

Fig. 1

Top row : successive stages in producing a cone of flint by a blow on a tabular block.
Lower row : what happens if a blow is struck near the edge ; a " flake " comes off, bearing a " bulb of percussion ".

It is essential to recognise the difference between the " core " or block of stone, and the flakes, or slices detached from it by blows delivered near the edge of a flat surface. (By the term " flake " must be understood a piece of stone struck off a core by man, not any portion of a lump that has been broken off by natural forces, such as a fall from a cliff, sudden change of temperature, or contact with fire.) In pre-historic times one or the other was in favour at various periods : and even if the core and flake happen to be about the same size, the former always has a cavity, corresponding to a swelling on the latter, just below the point where the final blow was delivered. The swelling on the detached flake, called the " bulb of percussion", is often regarded as the hall-mark of human work. It is thus a most useful indication in distinguishing an artifact—that is, a humanly chipped stone as opposed to a natural one. But it must be remembered that (i) natural forces can, occasionally, produce bulbs of percussion, (ii) flakes may be incomplete when found owing to the end with the bulb having been broken off, and (iii) a finished implement has often had the bulb removed during the process of manufacture, by what is " called secondary work" or trimming. When the bulb is present, it may generally be assumed that the flake has been struck off the core by man : when it is absent, other indications must be sought for. Fig. 2 shows two views of a typical flake, showing the bulb of percussion. Fig. 3 shows a flake illustrating a feature, sometimes found, that of a ring or rings, like waves, concentric to the point of percussion. Fig. 4 shows a core from which a number of flakes have been struck, and bearing bulbar cavities or " negative bulbs," the counterparts of the bulbs on the flakes.

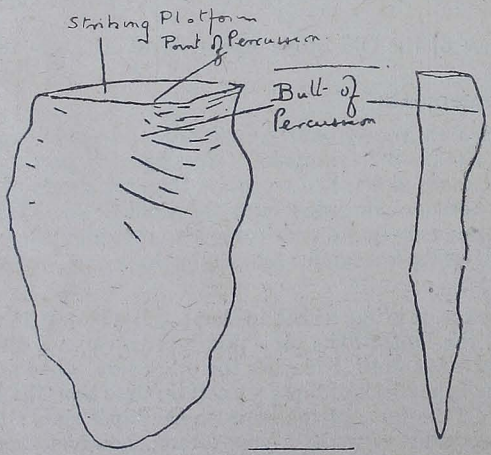

Fig. 2

Two views of a typical flake, showing point of percussion, striking platform, and bulb of percussion.

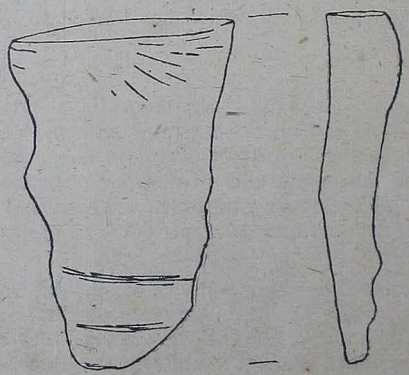

Fig. 3

A flake showing " waves " or " rings ".

Fig. 4
A "core," showing where flakes have been struck off it, leaving "negative bulbs'.

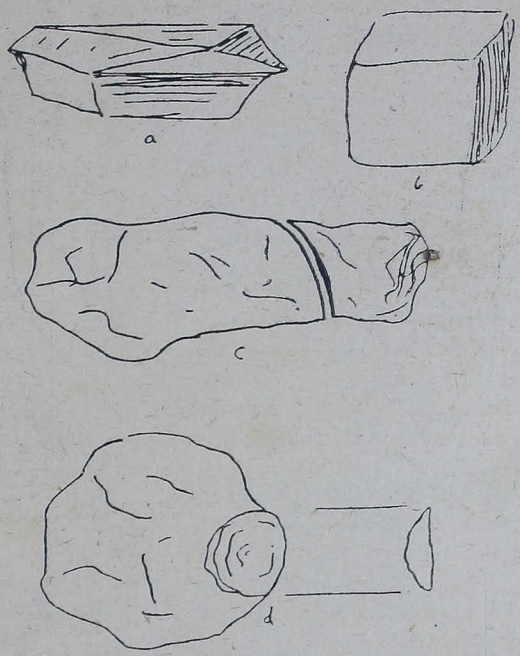

Fig. 5
Some natural fractures; *a* and *b* on flat planes; *c* on a wide curve; *d* a "pot-lid" fracture.

Natural fractures are often duller and less clean and fresh-looking than artificially-chipped surfaces. Many of the rocks of the Gold Coast in their natural cleavage tend to break along flat or more or less flat planes. So much is this so that in some cases rocks naturally split in this manner have been mistaken for blocks of stone square-dressed in the mason's fashion. Another natural type of fracture is a wide curve, without the feature of a negative or positive bulb. Another is a sort of "pot-lid" fracture, roughly circular in shape. (*See* Fig. 5.) On the other hand, it sometimes happens that the flaking on a stone implement was originally clearly marked but in the passage of time, it may have become so weathered that there is nothing but its shape to suggest that it was once an artifact. (*See* Fig. 6.) Fig. 7 shows some of the types of chipped stone implements that have been found in the Gold Coast. The members of the Geological Survey have found numbers of such implements in many parts of the country and they are kept in their collections in London and at Ancobra Junction. I myself have found them in a number of places. But you notice that in no cases have these implements been found during the course of investigations which have established their occurrence *in situ* in deposits which have been dated either in terms of a climatic or cultural sequence. Therefore, although I have said that the form and type of these chipped implements is comparable to those in terrace gravels, their age has not yet been proved, in the way it has been in East and South Africa. It really needs a geologist and an archæologist together, working whole time, carrying out properly planned investigations, before a real beginning can be made to the job of finding out something about the Old Stone Age period in the Gold Coast.

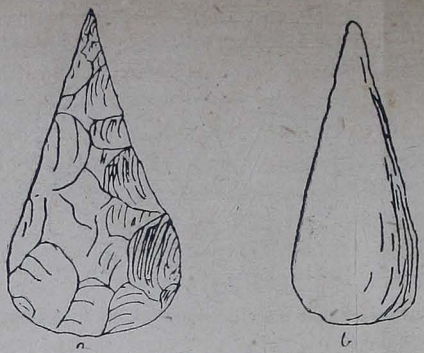

Fig. 6

a is a well-chipped implement ; *b* is what it may be reduced to by weathering.

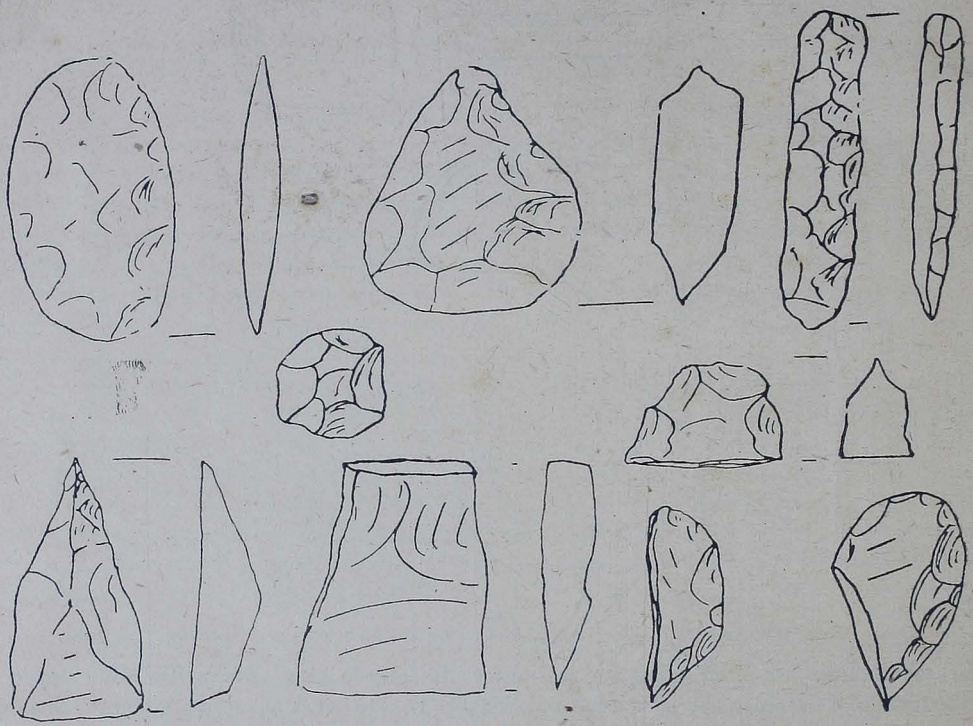

Fig. 7

Various types of chipped stone implements found in the Gold Coast.

The New Stone Age

The next great period of human development was the New Stone Age, when, as we saw, Man changed over from food collecting to food producing. We saw that the inventions of agriculture and stock-raising were also accompanied by the subsidiary inventions of pottery and weaving, and the grinding of stone implements. This revolution in the manner of human livelihood took place some 7,000 years ago in the valleys of the Nile, Tigris-Euphrates, and Indus, and its ideas spread out at varying speeds and with different modifications. The New Stone Age began in Britain less than 5,000 years ago, on account of its geographical position and the length of time it took for these ideas and ways of living to travel. When did the New Stone Age begin in the Gold Coast, and what are its peculiar characteristics ?

The plain answer to the first question is " We do not know, " the reason being that enough is not yet known, either about the archæology of West Africa in general or the Gold Coast in particular, to answer the question. Most of the dates for Middle Eastern and European pre-history after 4,000 B.C. are founded on exact dates which have been deciphered from ancient inscriptions in Egypt and Mesopotamia. These give dates in calendars which, by astronomical connections, it has been possible to correlate with our own. But

it is only in these areas that we have exact dates. Elsewhere, in Europe and Britain for example, we are only able to make approximate guesses to within a hundred years or so. These approximate guesses are nevertheless by now fairly accurate, because they are based on correlations, made on hundreds of excavated sites, right across Europe to the Middle East. Even as long as 7,000 years ago, communities were beginning to give up being entirely self-supporting, trade began, and stretched its routes ever further and further afield. So it happens that a datable Egyptian object may be found in Crete or Asia Minor and give an approximate age to all the associated native objects. Trade connections can spread over a great distance and they help to give the archæologist a guide to the age of the objects he excavates. But this method can only work where you have a large number of sites of any given age excavated all over the area, linking you with your datable " source ". In this way a chronological framework and sequence of cultures can be established and subsequent finds fitted into it. In the Gold Coast we are still in the process of making our own framework and sequence, but even if we had finished making it, instead of only being at the beginning, we should not necessarily be able to put approximate dates to it, as the necessary work in other parts of West Africa and in the areas between the Gold Coast and Egypt have not yet been sufficiently explored.

So the position at present is that we know there was a stage of development which can be termed the New Stone Age in the Gold Coast, but we still cannot say to within a thousand years when it began and ended. What do we know about this New Stone Age culture in the Gold Coast ?

Stone Axes

For many years ground stone axes, called by Twi-speakers " nyame akuma, " have been well-known in the country, and there are rocks scored with deep grooves about eighteen inches long where they were ground. The common belief is that these axes are thunderbolts, a very common and widespread belief by people all over the world about axes ground out of stone—the typical implements of the New Stone Age, to which the Gold Coast type is no exception. (*See* Fig. 8.) There had also been found in various places a type of pottery decorated with impressed dots, with

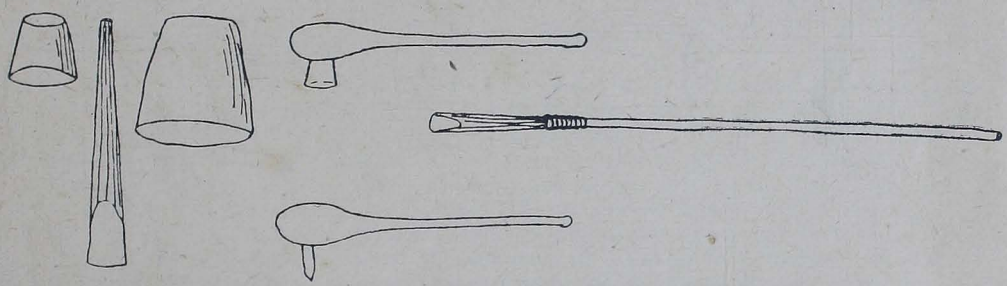

Fig. 8

On the left, three types of ground stone axe ; on the right, how they may have been hafted in wooden handles.

wavy " comb " ornament, with bosses and pits and grooves and quite a large variety of patterns. This was believed to have been made by the New Stone Age people who made the ground stone axes. But that was about all we knew about the New Stone Age in the Gold Coast, although quite a lot of careful collecting and recording had been done by people like Captain Rattray and Captain Wild. It is a good illustration of the limitations of field-work by itself and how excavation can throw fresh light on things in a way nothing else can.

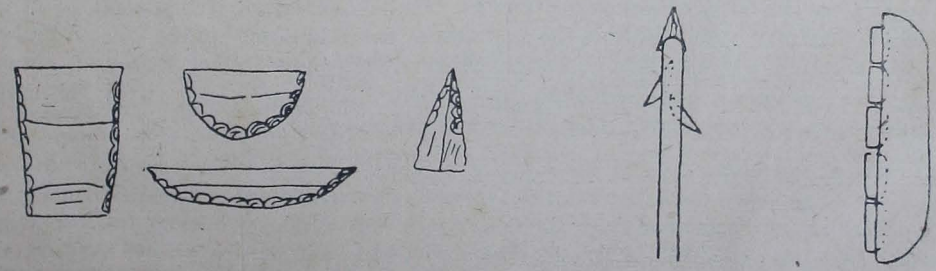

Fig. 9

On left, microliths (actual size) ; on right, how they may have been hafted in slots in wood.

When doing some field-work in Kwahu, I had come to know of a line of caves near Abetifi ; some years later I chose one in which to do a trial excavation, as it looked a likely one, if any of the caves had been occupied in the past. The results were far more productive than I could have dared hope for. At the deepest point, the cave-earth had a thickness of six feet before bedrock was again reached. In the top foot or two occurred pottery with shapes and designs unlike modern Kwahu pottery, a piece of iron, two pieces of the nozzles (or tuyères—*See* Fig. 10 *b* and *c*) of the bellows for an iron-smelting kiln, and a piece of a bronze-casting mould. Below this upper layer, in the bottom four or five feet of the cave-earth came a layer which contained ground stone axes, a different type of pottery, decorated with impressed dots, hammer-stones, rubbing-stones, two stones with a hole drilled through the middle, and thousands and thousands of small chips of white quartz. All of these must have been the result of men of the New Stone Age chipping their implements on the spot ; neither their presence nor their form can be due to natural causes. Among these multitudinous pieces of chipped quartz are a large number which have been carefully made into implements with a definite point or cutting edge and of a recognisable shape : they are all small, few being more than an inch long, and were almost certainly used by being fixed into pieces of wood which have since rotted away : they are of types which have been recognised in many parts of Europe, in East Africa and in South Africa, and are known as microliths. (*See* Fig. 9.) It is almost certain that the New Stone Age people of the Gold Coast had some other implements beside ground stone axes. Formerly we did not know what they consisted of, but now we do. This combination of these very small chipped implements with ground stone axes is very interesting, for it is different, for example, from what is found in East Africa, where ground stone axes are as rare as they are common here, but great use is made of these very small chipped implements. This abundance of ground stone axes is something which characterises the New Stone Age of West Africa, and some of those of the Gold Coast run to an exceptional length, although it is possible some of these are forgeries. I know of one 27 inches long, which as far as I know is the longest in the world. I should be interested if any reader knows of a longer. Another characteristic which occurs on stone axes in the Gold Coast is that of having longitudinal facets, like those on a pencil which is not round in section but six-sided : this feature seems to be found chiefly in the Western and Central Provinces, and I should be interested to hear of examples from elsewhere.

Cave Excavation

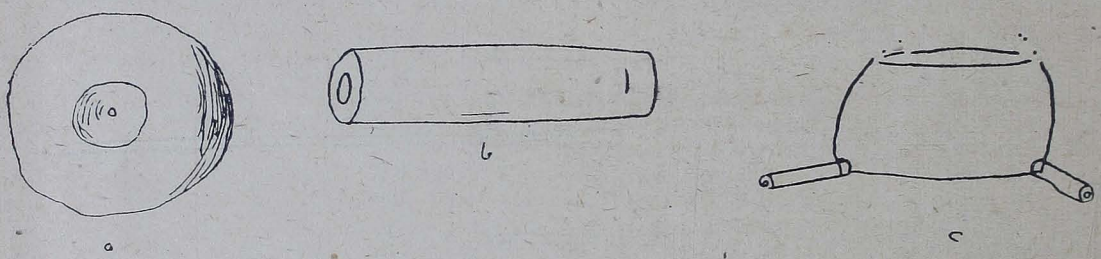

Fig. 10

a **Pierced stone :** *b* **tuyere ;** *c* **manner of use of tuyeres for iron-smelting kiln.**

Another new thing established by this excavation was that the dot-impressed pottery really did belong to the makers of the New Stone Age axes. Another thing learnt was the age of the quartz pebbles pierced with a small hole : many of these had before been found on the surface or in casual digging but nobody knew whether they might not have been later or older than the ground stone axes, whereas now we know that even if they are mostly later than stone axes, at Abetifi anyway they overlapped. Many different uses have been suggested for these pierced stones, from spindle-whorls or net-sinkers to beads or money for which there is most evidence, but their original use has not yet been proved (*See* Fig. 10*a*). Another interesting point about these small pierced stones is that they occur mostly in the S.E. area of the Gold Coast—in the Eastern Province of the Colony, and in Togoland, whereas stone axes occur plentifully elsewhere—although they are not so common in the Northern Territories as in the Colony and Ashanti. What is the reason for this difference in the distribution of the pierced stones ? Only future research will show.

What sort of agriculture or stock-raising, if any, did the New Stone Age people of the Gold Coast practise ? To these questions we do not know the answers, although doubtless future excavation will supply them : you cannot expect digging at a single site to solve all the problems. To know about stock-raising, you usually need to have bone preserved, which does not always happen in the acid soils of the Gold Coast. To know about agriculture you need to be lucky enough to find the remains of grain preserved by its being charred in a fire but not completely burnt.

In the Oda district there is a most interesting group of earthwork enclosures discovered by the Geological Survey; each consists of quite a large area of ground surrounded by an artificially-dug ditch of considerable size: they appear to be the defences of vanished villages: they are overgrown with forest trees and the local people say they were there when their Akan ancestors first moved into the country. Major Junner, Director of the Geological Survey, dug in some of them and found ground stone axes and decorated pottery, suggesting a New Stone Age date for them. Yet the decorated pottery is somewhat different from the New Stone Age pottery from the cave at Abetifi. What is the relationship between these two, and what accounts for the distribution of these earthwork enclosures around Oda? And what is their relationship to another earthwork at Nkraa near the Tano River in the Western Province, which has yielded New Stone Age remains, including very small chipped quartz implements and pottery with a peculiar stamped design? It is to be hoped that future excavations may supply the answers.

Earthworks

Major Junner also dug into a mound near the Kolodio River near Bole, and, in addition to finding stone axes and decorated pottery, found a skull the physical characteristics of which were half-Negro, half-ancient Egyptian. This opens up suggestions of interesting possibilities as to what may have happened, but it is known to be dangerous to draw more than tentative conclusions from a single skull, as there is often such a comparatively wide range of characteristics within a single ethnic or racial group.

We saw above how the New Stone Age revolution, in the Middle East area, was followed by the discovery of metal-working, and later, by the beginning of life in cities. We saw that the discovery of copper was soon followed by the invention of alloying it with tin to make bronze, and that bronze was the metal first extensively used. Iron was discovered quite a long time later. You remember that in the cave at Abetifi which I excavated, in the lower, and therefore older layer, occurred all the New Stone Age material; above it, in the upper, more recent layer, occurred objects showing a knowledge of iron and bronze. Does this mean that, in the Gold Coast, there was no Bronze Age, as there was in Europe and the Middle East, between the New Stone Age and Iron Age? Not necessarily. It is perfectly possible theoretically for the cave not to have been occupied after the New Stone Age, and only reoccupied when iron was known, and the intervening period to represent a Bronze Age. But the evidence hitherto does seem to suggest that a knowledge of metal-working was not introduced into the Gold Coast until both bronze and iron were known. There seems to be evidence that for a time iron was still sufficiently scarce and valuable for stone to have been used as well. Captain Rattray has recorded a tradition among the Ashantis that long ago stone axes were used as hoes at a time when iron was known, but still so scarce that it was only used for money.

Metal Age

We know that iron was fairly common in the Asia Minor, Syria and Mesopotamia area by about 1200 B.C., but it did not become common in Egypt until about 600 B.C. and not until two or three hundred years later in Britain. These dates are known from archæological evidence. When did a knowledge of iron reach the Gold Coast? When the Portuguese first reached this country in the fifteenth century, the natives of Elmina are described as being armed, some with shields and javelins, other with bows and arrows, but how these javelins and arrows were pointed is not stated. On the Guinea coast further to the west of the Gold Coast iron was apparently scarce, and although imported iron articles were used by some of the tribes in 1455–70, it is supposed to be unlikely that they had learned to extract it from its ores. In 1623 the natives of the Lower Gambia River are recorded as having no iron of their own making, but saying that there was a tribe further up river which knew how to extract iron from ore. It is believed that Berber tribes introduced iron into the Senegal region about the third century B.C. What the truth is about the date when iron reached the Gold Coast we do not really know yet. I have excavated an iron-smelting site and recovered the form of the kiln and clay bellow-nozzles, or tuyères (*See* Fig. 10 (*b*) and ( )); Captain Wild and Mr. McGranahan excavated a kiln at Abomposu and the Geological Survey have done the same near Arnuni, Anakum, Fureso and Aiyinafurso but in no case was there any evidence as to date. From datable tribal traditions we know that iron reached the Bushongo when in the Ubangi-Chari area about 500 A.D., the Baganda in Uganda about 1000 A.D., the kingdom of Angola not until the fifteenth century, and a tribe in the Lake Tanganyika area not until the seventeenth century.

Some evidence we have, however, from an excavation in a large midden mound in Akwapim, of which the results are not fully worked out yet. Major Junner first drew attention to some of these large mounds along the north-eastern half of the Akwapim ridge, and I chose out this particular one for excavation after two days field-work in the area. It appeared to be an old midden mound, but there is no remembrance in the present village of its having been used. It was 25 ft. high, and we dug a four-foot wide trench 25 ft. long, right down through the middle of it from top to bottom; all the earth dug out was carefully sieved to make sure of finding even the smallest objects, such as fine beads. Many different layers were encountered and vast quantities of old pottery, unlike modern pottery, were found; when the different types and the levels they came from have been worked out, they should be very useful guides in future excavations of the period. A large number of beads was found, and some beautifully carved and decorated bone and ivory work. In the top half there occurred many clay tobacco-pipes of local manufacture, of the kind commonly in use in the country until mported clay and wooden

Midden Excavation

pipes began to displace them towards the end of the last century. These were plentiful in the top half of the mound but entirely absent in the bottom half. Now this helps to give us an approximate date. For tobacco only became known to the Portuguese in 1560 A.D. after it had been learnt from the American Indians. But they very quickly spread the idea about the world in their voyages, and it is known that they had introduced it into South Africa by 1601 and India and Japan by 1605. So it probably reached the Gold Coast within ten years of 1590. Taking this therefore as an approximate date for just above halfway down the mound, where pipes begin, and supposing that the midden went out of use in the first quarter of the nineteenth century, we get a period of 200–230 years for the top half of the mound. Assuming an even rate of accumulation, that gives us rather more than 200–230 years for the lower part of the mound, which gives us a date of somewhere round about 1370 for the beginning of the mound. This is a hundred years before the first Portuguese arrived in the country; yet—and this is what I have been leading up to—brass and iron occurred right down to the bottom of the mound. So, granting these assumptions, it appears that the inhabitants of Akuapem were quite familiar with metal by 1350 A.D. It is probable they were familiar with it much earlier, but it has yet to be proved.

Gold

There is one archæological problem connected with the very name of the Gold Coast. When were the gold resources of the country first discovered and utilised? In the gold-bearing areas of the country, there is evidence of the ancient extraction of gold. Both on alluvial and reef sites, there are small circular pits, often sunk in great numbers, up to a depth of 100 feet or so, from which former inhabitants of the country extracted gold. It is certain that gold was known and mined for in this way, before Europeans ever came to the country. It was chiefly the lure of the gold which brought the early voyagers. Most of the gold coinages of Europe in the fifteenth century were made of West African gold, finding its way across the trans-Saharan caravan routes. There are few known sources of gold in the Colony or Ashanti that do not show signs of having been anciently worked. But when did this mining for gold begin? Before or after the introduction of metal to the country? There is a report of the finding of a stone axe at the bottom of one of these ancient shafts. Was the original discovery of gold due to some adventurous prospector of metals from ancient Egypt? These are all conjectures. It is a fascinating question, but we really need very much more evidence than we have at present.

Underground Cisterns

Another interesting problem is the age and origin of the ancient underground cisterns which are to be found in certain parts of the Northern Territories. In the area where they occur, there is a crust of hard rock, called pisolitic cement (laterite); through this a small circular hole was made, and then a large cavity hollowed out in the softer impermeable rock underneath. In this way, in an area where seasonal droughts are prevalent, excellent underground water cisterns were made, as they filled up during the wet season and lasted during the dry. But the present inhabitants or their ancestors say they did not make them. Some people have attributed them to the work of the Songhais, but others have doubted whether Songhai influence reached as far south.

Origin of Gold Coast Populations

When a very great deal more archæology has been done in West Africa, we should be able to learn a good deal more about the origin of many of the peoples of the Gold Coast. Different tribes have different traditions about their origin—sometimes there are different, conflicting traditions in the same tribe—so that there is still considerable uncertainty. Where, for example, did the Ashantis come from? Although a certain amount of reserve has to be maintained in equating a certain culture with a particular ethnic group, it is very likely that future archæology will throw light on this question. Many people believe there is a connection between Ghana and the Akan peoples: there may be: future archæological research—especially when the lost site of Ghana is found again—should provide evidence about this.

METHODS USED IN ARCHÆOLOGY

Let us consider the methods by which archæology finds out about the past, and the techniques it uses. Then we can see to what extent they have been, or can be, applied to similar study in the Gold Coast.

Fieldwork

It has already been said that the principal method by which archæology finds out about the past is excavation—that is, extremely careful digging on sites formerly occupied by people of ancient times. Before I say any more about that, which I will do later, I will first deal with a question that I am frequently asked about excavation. "How do you know where to dig? The answer is: "By field-work beforehand". What do we mean by field-work? There are really two sides of field work: one part consists of the searching for, and collecting, of ancient objects or information about them, and of examining sites which are suspected of containing ancient remains. The other part consists in the careful keeping, and cataloguing, of all the details of where they were found and so on. It also consists in comparing different ancient objects, and in the recording, preferably on large scale maps, of sites which suggest themselves as possibilities for excavation. This type of field-work takes one roaming over the countryside with eyes alert to notice the least clue and keeping a careful record of all findings. Sometimes one finds little of interest: but my experience has been that, if you know what

to look out for, you very seldom spend a day or an afternoon really setting out to explore, or re-explore, a tract of country and feel that you have spent your time fruitlessly. You nearly always come across something of interest : and then there are those less common occasions, but which occur nevertheless, when one comes across something really exciting. For archæological research may always have something exciting in store for us. After all, the things we are looking for are things no one else has found. There is always the thrill of discovery. There is always the satisfaction of unravelling, or helping to unravel, a secret.

What do we look for and where do we go, when we do field-work ? We look for anything at all which is not the work of nature, which is the result of human handiwork. Having found it, we have to try to decide whether it is ancient or recent. As we walk along we see a slight mound which breaks the level line of the ground : we go out of our way to go and examine it. It proves to be nothing but an old worn-down ant-hill all overgrown with grass and bushes. So we go on ; we come to another mound and examine that, and it proves to be the same. And so it happens with quite a number. Then we come to one which does not appear to be an old ant-hill. We scratch it with a stick or a small trowel brought for the purpose, and a piece of pottery turns up, and some charcoal. Now we are onto something ! There is no village within four miles of this spot nowadays, and enquiries from the local inhabitants elicit no memory of there ever having been one there. Yet quite obviously this is the place where people living nearby have collected up their rubbish and it has grown up into a heap. Yet it certainly was not made in modern times. It may even be very old. It might repay future excavation : and so it is recorded in the field-worker's note-book and the place marked on his map. Then we go on, still looking for any irregularities in the ground that are not natural, but caused by the hand of man. We come to a wide ditch or furrow, all overgrown with cocoa and forest trees. At first it looks as if it might just be a natural hollow, but then, when we look at it carefully, we decide that no stream, earth movement, or other natural agency, could have cut it out quite in that way. Then it seems as if it might be an old drainage ditch, dug in past years by the Public Works Department. But the size of some of the forest trees makes us wonder, if it must not have been made before the Public Works Department started their activities in the country. So we come to the conclusion that it must have been made by the inhabitants of the country a long time ago. We question the chief and wise old elders of the nearby villages and ask if they have any tradition about the place. " No ", they say, " it was already there when our ancestors first came into the country ". This makes it look as if it is something really old. We go back to examine it again, and, although it means cutting a way through the undergrowth of the forest, we follow the ditch along until we realise that it comes back again in a complete circle to the place whence we started. This is certainly interesting : let's go into the inside of the circle. Here we find irregularities in the ground and we find a piece of pottery decorated quite unlike modern pottery. It looks as if this place was once a fortified village or camp defended by a ditch and rampart of earth—just like the " agger " or " vallum " and " fossa " with which, we read in Cæsar, Roman soldiers fortified their camps. " Does it mean then that Roman soldiers were once in the Gold Coast and made these fortified places ? ", you will ask. " Oh no, not necessarily—that is jumping to conclusions," and jumping to conclusions is something you must never do in archæology.

Archæology must follow Scientific Discipline

You must always follow the scientific discipline of first patiently collecting all the undeniable facts you can, not confusing facts with conjectures, and from these proved facts, you may try to find suppositions which appear to fit the facts. You must always be ready to throw these suppositions overboard if other facts are subsequently discovered which contradict them. Never must you go out to seek evidence to prove a pet theory. You must always allow the facts to speak for themselves.

Other places where we may profitably look are in grave pits ; or where soil is dug from beside the road to mend it ; in road and railway cuttings where workmen are digging a ditch or the foundations of a new house. You would be surprised how often looking in places like this reveals some trace of the past. It may only be a piece of iron-slag—but that may point the way to finding an ancient iron-smelting site. These are very important in the Gold Coast, because we do not yet know the date when metal was first introduced into the country. Sticking out of a road or railway cutting we may find a ground stone axe, or " Nyame akuma ", as the Twi-speakers call them. This may or may not lead to the discovery of a settlement site of their ancient makers, who lived in the period described above as the New Stone Age. In a gravel pit we may find another kind of stone implement, not ground at all this time, but oval in shape and chipped to a sharp edge all round. Its type suggests that it belongs to that very long and remote period to which, as we saw above, the name of the Old Stone Age has been given. Let us see if we can find one of these stone implements not just lying about after being dug out, but actually sticking in the gravel. If we can do that, then we can consult a geologist as to the age of the gravel and so determine the age of the implement.

This will give some ideas of what field-work consists of—walking or cycling over the countryside looking and gazing at everything, examining all sorts of likely looking places, picking up a stone here, a piece of iron-slag, and recording carefully all the results of these searches. In this way it will not be long before we have quite a list of places which we think might repay excavation. So we choose one on our list, and set about excavating it. How do we do this ?

Wherever people live, the material objects, which they use and then discard, accumulate. In a village, rubbish is either thrown outside the compound or more tidily collected into a heap. Much of this rubbish consists of things like rags and fruit-skins which in a short time completely rot away. Other things like bones will survive for a longer time according to the soil and the climate. Objects made of metal may last a long time, but they too may disintegrate. Some things, like pottery and stones, are practically indestructible. In the course of time, all these various objects, some just lost, some thrown away, accumulate to the extent that the level of the village rises quite appreciably above the original natural level of the ground. Then perhaps a swish building has fallen into disrepair, is unoccupied for a time, partly falls down, and is finally pulled down and the area levelled to make way for the building of a new house. But the remains of the walls of the old house are not entirely removed. They have just been spread over the ground to level it. Then comes the occupant of the new house : but the rubbish which is thrown out of his compound is different from that of the occupants of the old house ; for now there are many articles of European origin which have been bought in the stores. So that, although some of the new occupants' rubbish will be similar to the old, some of it will be different. Suppose now, that after a long time, the village is deserted, because the water supply dries up. Very soon the bush again invades what was once a village. All that is left to mark it, after the last of the walls has fallen down and the whole place is overgrown, is a slight rise in the level of the ground.

Excavation

If we dig at the site of this abandoned village, near the top we shall come to the remains of the later house and rubbish which contains European imports : then we shall come to a layer with nothing in it, representing the remains of the first swish building levelled to the ground, and below that at the bottom, we shall come to the remains of the oldest inhabitants of the village, without any European imports. Notice that the most recent things are at the top, the oldest at the bottom. This introduces us to a most important principle of excavation. It is that we do not simply dig to get as many old things as we can find, but we record very carefully the exact level and position in which we find everything : for in this way we can tell the relative ages of things. In the village I was imagining we were excavating, we have to be very careful to record the level at which we find the various objects, so as to know whether they come from the top layer and so belonged to the most recent occupation of the village, or whether they come from the lower layer and so belonged to the older occupation. This careful observation of the different layers in an excavation is most important. These layers do not always run level, but may be sloping in places. Therefore, we have to be very careful to get the side of our trench or cutting very straight and, as nearly as possible, vertical. Then we are able to examine the section, and to see the different layers, usually distinguished by being of different colours, by lines of charcoal, or some other way. After that we draw the section to scale. Now we have a record of the layers, and having carefully recorded the level from which all objects were found, we can see to which layer, and therefore which occupation of the village, they belong. Successive people living in a cave produce exactly the same result—it fills up with the successive layers of occupation : sometimes there may be as many as twenty layers, all of different ages, the bottom one being the oldest and the top one the most recent. In all the intervening layers we know that, of two adjacent layers, the lower is the older.

Stratigraphy

Digging has to be done very carefully : pick-axes are practically never used. The ground may be carefully forked over before the earth is put through a sieve to make sure that no small objects, such as beads, are missed. Often one has to go more gently and only use a hand trowel ; sometimes even, one just removes the earth from around a very fragile object with a brush, by blowing, or with a pen-knife. Digging carefully like this is, of course, a slow business : but it is the only way to make the record of the past tell us all it can. Remember it is written not in words in historical documents, but in markings in the soil in objects found in it and in their relative positions. For this reason, no inexperienced amateur should undertake excavation. Considerable training is needed to know how to set about it and what to be on the look-out for. Without this, an inexperienced excavator may destroy evidence which can never be " put back " but which an expert would have been able to interpret. On the other hand, how much can be learnt about the archæology of the Gold Coast will depend very largely on the extent to which chance evidence is recorded and not lost. I would urge all those who know of the finding of any objects of archæological value to keep a careful record of their findings, and either let me know, or else publish them themselves where the evidence will not be lost. So often it happens that someone finds something interesting and keeps it carefully for a time, but then in the rush and hurry for packing and unpacking for transfer or leave it gets lost, and with it is lost a valuable piece of evidence. Had it been recorded and published at once that wouldn't have mattered very much, or if it had been given to or sent for inspection to a museum, it might not have happened at all. Even what seems to the finder to be the most insignificant object or discovery may have importance when related to other finds he perhaps does not know about. If anything ancient is being dug up—in building a road or a house, in digging a ditch or in getting gravel or soil—vital and important evidence may turn up, if only it is recovered and kept. Best of all is to leave the place alone and any object in position and send a telegram to an expert to come and have a look at it before further disturbance takes place. For there

Warning

Appeal

may be something, perhaps only a mark in the soil, which will give information to someone who has happened to have experience in interpreting such things, but which would mean nothing to the ordinary observer.

Air-photography

One most useful method of research which has been widely employed in Europe and elsewhere is air-photography: for a view from above will often reveal more of a site than ground inspection; or, by making clear slight shadows or vegetation differences, disclose an ancient site invisible on the ground. I have made one flight of some 300 miles in the Gold Coast for this purpose, and obtained some results. But really, to obtain useful information in this way, one needs to be able to make a large number of flights in different weather and light conditions, at different seasons of the year, and in a type of plane more suitable for the purpose than that which was available to me.

Collecting

There is no reason why anyone should not adopt archæology as a hobby, and start doing his own field-work and making a collection. It is a very good thing for there to be private collections if the collectors remember their responsibilities, and that they should collect not for the objects themselves but for the information they can give. Therefore they must adopt some system of recording. The least they can do is to record the place where the object came from. This can be done by writing the name of the place on the object in small block letters in white paint or Indian ink. Sticky labels are no good because they come off in damp weather. But so often one needs to record so much more than just the place an object comes from, and there is too much to write on the object itself. Therefore it is best to adopt the catalogue system. Only a number is put on the object itself, and all its particulars are entered in the catalogue opposite this number. A small note-book or exercise book is quite adequate for this purpose. Remember not to lose the catalogue but keep it in a safe place, and remember to keep it in such a way that anyone looking through your collection can easily understand your catalogue. You may suddenly die, and all your trouble will have no scientific value if someone else cannot understand the data you have collected. Many Gold Coast schools make collections, but I have never yet seen one properly marked and catalogued. If only this were done, the schools in the Gold Coast could be valuable agents in collecting archæological information. Information recorded should be as detailed as possible. To record that something was found "At Accra" or "In Kumasi" is not enough. The exact spot should be indicated, the exact depth in the ground, the date, the name of the finder, and any other particulars. Look out particularly for associations of things found together. Some bored stones were once sent in to the museum "found in an old pot": enquiries after the pot indicated that it had been thrown away. And yet, if only the pot had been kept and sent in too, valuable knowledge might have been gained from seeing the shape or pattern of the pot which contained the bored stones.

See if you can learn to recognise chipped stone implements from ordinary stones, either by looking at pictures of them or better, by handling specimens. Do not think that because ground stone axes are common, their finding is unimportant. Such finds are especially important if accompanied by anything else, such as pottery. We want to have a complete record of all finds of pierced stones, in order to make our distribution map as accurate as possible. Some stones have grooves or pits in them, some were used as hammer stones or rubbing stones. Old pottery, bones, objects of bronze, anything at all which does not seem modern, all may have value and should be reported. Ancient beads are likely to give us important evidence, and we need to find out very much more about the ancient beads of the Gold Coast and the problem of the so-called "Aggrey" beads. Some people say these are Phœnician; but, although I have not yet got the evidence to prove it, I have an idea that they are really Venetian, brought to West Africa along the trans-Saharan caravan routes. So I shall be grateful to know about any finds of ancient beads.

I shall also be grateful to hear of any places which might repay future excavation such as artificial mounds; these may be old middens or burial places. Old iron-smelting sites can usually be recognised by the presence of quantities of black iron slag. Usually also they can be recognised by the clay pipes which were used to introduce the forced draught from a pair of goat-skin bellows into the inside of the kiln: complete, these pipes are a little over a foot long and three or four inches in external diameter. (*See* Fig. 10, *b* and *c*.) I shall be interested to hear of any rocks with grinding grooves on them, and of any earthwork entrenchments outside the Oda district. So this is an appeal to you for your help and co-operation in collecting this information. We have seen that archæology is concerned with studying ancient things. But it is not so much interested in ancient things for themselves or because they are ancient, as for what their silent evidence can tell us about the people who made them; about their way of life, the food they ate, the houses they lived in, their physical appearance, their social system and their religious beliefs—these are the things archæology is really interested to find out about. But to do so it has to study carefully all the ancient objects which have survived the passage of time, and reconstruct the general picture from them. It is important to remember this about archæology; that it is its material that consists of old things, but that its main purpose is to give information, not so much about ancient things, as about ancient people. In the minute study of ancient objects which is the proper method of archæology, the real goal is sometimes apt to be forgotten. But this should always be our ultimate aim. This is why I am appealing to you for your help and co-operation in attempting to do this in the Gold Coast. We need this knowledge of the past before we can have that full understanding of the present without which we cannot hope to control the future.

Our Real Aim

Things to be on the look-out for :—

Chipped stone implements. (Core-tools, flakes, microliths, etc.)
Ground stone axes.
Pierced stones.
Hammerstones, stone balls and rubbing-stones.
Pitted or grooved stones.
Iron slag.
Tuyères (iron-smelting bellow nozzles).
Pottery with ancient type of decoration or form.
Ancient clay figures and masks.
Old clay pipes.
Objects of brass or bronze.
Carved or decorated bone or ivory.
Buried bones.
Ancient beads.
Ancient iron coins, etc., etc.

Places worth looking at :—

Caves and rock-shelters.
Rock faces (for paintings, drawings, engravings, sculptures or inscriptions).
Gravel pits.
Earthworks.
Midden mounds.
Mounds of unknown character.
Shell-mounds (on the coast or by lagoons).
Underground cisterns.
Old graves.
Grinding grooves.
Ruins.
Stone walls or terraces.
Stone circles, etc., etc.

Some Recommended Reading :—

A. Of a general nature :

Flints. An illustrated manual of the Stone Age for beginners. British Museum.
Guide to the Antiquities of the Stone Age. British Museum.
Adam's Ancestors, by L. S. B. Leakey. Methuen.
Stone Age Africa, by L. S. B. Leakey. Oxford.
Digging up the Past, by Leonard Woolley. Penguin.
What Happened in History, by Gordon Childe. Penguin.
Man Makes Himself, by Gordon Childe. Thinker's Library.
Archæology and Society, by Grahame Clark. Methuen.

B. Concerning the Gold Coast :

" A Bibliography of Gold Coast Geology, Mining and Archæology to March 1937," *Gold Coast Geological Survey Bulletin* No. 9, by W. T. James.

Gold Coast Geological Survey Annual Reports, *passim.*

" Gold in the Gold Coast, " by Major N. R. Junner, *Gold Coast Geological Survey Memoir* No. 4.

Gold Coast Teachers Journal, Vols. VI, VII, IX and X. These contain most useful articles by Capt. R. P. Wild.

Gold Coast Review. (Now defunct) Vols. II, III and V. Further articles by Capt. R. P. Wild.

African Studies, September 1943, " Archæology in the Gold Coast," by C. T. Shaw.

I am very grateful to Major N. R. Junner, Director of the Geological Survey, for help and suggestions in the preparation of this paper for publication.

G.P.D./W. 5406/2,001/1/45

GOLD COAST COLONY

ARCHÆOLOGY

AND

THE GOLD COAST

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GOLD COAST

PRINTED BY THE GOVERNMENT PRINTING DEPARTMENT, ACCRA
AND PUBLISHED BY THE DEPARTMENT OF INFORMATION

1945