

ARCHAEOLOGY AS A SCIENCE

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A RCHAEOLOGY did not begin as a science. When Alexander the Great, on his campaign to the east, stopped to visit the supposed site of Troy; when the Roman Emperor Augustus had a number of Egyptian obelisks brought to Rome to decorate the *spinae* of various *stadia*; when consuls and emperors brought to Italy thousands of splendid pieces of eastern and Greek antiquity to decorate temples, fora and villas, it is certain that none of them had a scientific reason back of his acquisitiveness.

The first fifty years of the exploration and excavation of ancient sites, tombs and monuments, has nothing in common with scientific archaeology. It is less than two hundred years ago that political and military campaigns opened up the countries of the Near East so that they might with reasonable security initiate searches for the relics of the past. But despite occasional attempts of scientifically minded officials to control or stop illicit digging, the lure of possible finds of monetary value was too strong to be overcome. The authenticated stories of tomb robberies in Egypt where eager intruders stamped about over "acres of mummies" in order to find what gold or jewels had been left by yet earlier robbers, the wilful destruction both by natives and by foreigners of many monuments, the utter carelessness with which things of non-monetary value were thrown about, prove that the early days of what finally became the era of modern archaeology were nothing less than an unorganized but ubiquitous campaign for loot.

Lord Byron called Lord Elgin a robber only a little more than a century ago, when that British official in Greece took advantage of Greek apathy or helplessness, due to the political situation, and shipped to England those wonderful pieces of pedimental sculptures and frieze reliefs that the world knows as the Elgin marbles of the British Museum. Elgin's interest seems to have been personal. It is certain he did not steal those marbles, and it is clear he did not get them to sell at huge prices for his own profit. But he had no scientific archaeological end in view, although it is now beyond doubt that he did art and archaeology a tremendous service by bringing

marbles that are beyond price and imitation to a place where they are preserved from accidental or purposeful destruction. Other European countries have served science in the same way by bringing to protected places objects of antiquity from small and bickering states of the Near East, no matter whether their object was scientific or not.

It was accidental discoveries of objects of a compulsory scientific character which led on to definitely scientific excavation. Such finds as that in 1506 A. D. of the Laocoön group in the Golden House of Nero at Rome, as that of marbles, bronzes, and papyrus mss. at Herculaneum in 1753, as that of the Rosetta Stone in Egypt in 1799, as that of the rock-hewn Petra in 1812, as that of the mosaic of Alexander the Great in Pompeii in 1831, as that of the Regolini-Galassi tomb at Cervetri in Tuscany in 1836, brought the scholarly and governmental world to a realization that exploration and excavation must be conducted under proper safeguard and with scientific care.

The work of Mariette at the Serapeum at Memphis in Egypt, beginning in 1851, was done with all the scientific care of which archaeologists at that time were capable. When Schliemann made the discoveries which threw the world into its first archaeological excitement, namely, those excavations at Troy, Mycenae, and Tiryns, which began only so short a time ago as 1871, he knew very little of the science of his work. He made many mistakes, he harmed some of the sites, he misinterpreted part of his finds; but his mistakes were the school of science. The French at Delos and at Delphi, and particularly the Germans at Olympia, where in 1875 to 1881 the first correct foundations for the science of archaeological excavation were laid, gave to the world methods and criteria from which there has been little deviation since except along the lines of a wider recognition of the value of artistic and historical background, and of the multiplications of implements and devices that have almost eliminated the possibility of subjective error.

The greatest of the unforgivable sins of a person who finds an object of archaeological character is to move it from its place of discovery until every possible circumstance connected therewith is carefully and exactly noted. Photography is probably the best single help in later identification, but that is not enough. The depth at which an object is found, the stratum in which it is, the position in which it lies, can not be shown certainly by photography; here is where the note-book must be used. All museums have thousands of objects which have great artistic, historical,

epigraphical, and monetary value, but their scientific value is almost non-existent if there is no authentic record of where and how they were first discovered.

The great number of "digs" now under way in different parts of the world show the interest that archaeology has aroused. The increasing number of museums, both those that are public and those that are connected with educational institutions, are witness to that world-wide interest. The laws and regulations under which concessions for excavations are secured, the methods of governmental oversight, the division of the things found, are all framed and conducted in such ways that the demands of science are met. Governments no longer care to meet the criticism that follows unfair or careless exploitation of the sites where scientific archaeology has the first claim.

Let us grant then that there is a widespread interest in archaeology; that archaeology has grown to be a true science; that general culture is greatly widened and enhanced by the objects of beauty and value which are filling hundreds of museums; that governments have responded to the demands of science that exploration and excavation be conducted by competent persons: we may almost go on to say that there now attaches a national disgrace when looting of tombs, illicit digging, or uncontrolled dispersion or sale, is allowed.

Excavations are done nowadays on a somewhat extended scale, and considerable money is needed to finance them. Private persons are not as interested as they once were in such financing, because no longer do the objects found go easily into private museums. Certain governments subsidize archaeological schools, a method which has produced thus far most excellent results. Wealthy benefactors, who do not wish the objects found, and, more particularly, great foundations with money to spend, either through universities or museums, or official scientific organizations, are beginning to divert their attention to archaeology. To avoid any useless expense has naturally come to be a primary object. More sciences than archaeology are profiting from this fact.

One may cite Italy in this connection. Many discoveries of importance have been made in Italian territory, and many pieces of archaeological work are now in progress. But from the great archaeological survey now being completed it is certain that the better sites will be chosen for future work and that both time and money will be saved by having a knowledge first of what has been done, and where, and also of where the likelihood of finding good sites is negligible. National or district preliminary archaeological surveys are now the order of the day.

URUSVATI JOURNAL

For a museum or university to secure a concession is, as yet, a matter only for straightforward and reasonable negotiation. Regulations are a matter of record, an abundance of governmental overseers is to be had. Trained personnel for scientific excavation beyond that in the field is, however, now very hard to secure. That means that more workers must be trained.

The first *desideratum*, which amounts almost to a requirement, is that aspirants to scientific archaeology be keen for that work as a profession. Women are as good archaeologists as men, and they can work practically anywhere that men can. Field archaeology is the most exciting side of the profession, but there must be as many trained persons to fill the more important positions in the teaching staffs of the universities, in the personnel of the museums, and in the research and publication field.

First of all, aspiring students must have linguistic and historical equipment. Not all students have natural abilities in mechanics, in drawing and sketching, topographical intuition, in human tact. But students can gain some proficiency along those lines by practice, and they can learn geology and some engineering; they can read on art and archaeology. Preliminary training can be had now in many universities and museums, enough so that a reasonably mature student can go out on a field expedition and be much more than a tyro. But it will be in the field where he will gain the real command of archaeology by working under the direction and oversight of competent excavators, photographers, draughtsmen, epigraphists, ceramists, engineers and architects.

The budding archaeologist must go through serious work in learning scientific method; he must acquaint himself with the variety and use of the scores of things that go to make up an archaeologist's outfit. He must learn to plot and keep up local and itinerary maps; he must become proficient in photography; he must learn what and how to observe, and then how to measure; and particularly must he learn how to keep a note-book record with meticulous accuracy. He will learn how to copy, and how to draw; he must have much practice in how to move objects without breaking them, how to preserve those that are liable to disintegration, how to shore up things on higher levels, how to pack objects that they may be moved without danger of being broken or harmed, and how to mark all objects so that the marks will be unobtrusive and so they will endure.

There are many small printed helps for the archaeological beginner, of which the best is a small handbook printed by the British Museum, entitled *How to Observe*

URUSVATI JOURNAL

in *Archaeology*. Such a book is a pocket *Vade Mecum* of an indispensable sort. Preliminary study, reading, and museum work helps the student to go to the field with considerable personal equipment; field work fits a museum or university expert to be an archaeological authority; both are necessary to fit one for scientific interpretation and consequent publications.

Sir Flinders Petrie recently said:

"The value of archaeology is to discover the histories of other nations, to bring to light the reasons why they became powerful and why they fell. Our work is to provide the world with data to avoid the mistakes of those who have gone before us. We have revealed the fall of the Romans and the causes for that fall, and we present the results of our investigations to the Governments of today. They must act upon them."