Chapter I-3

Scientific Field Research in Egypt

Results from research undertaken by the Institute of Egyptology, Waseda University

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The First International Symposium on X-ray Archaeometry focused on the question of how radiological techniques can be integrated into archaeology. Harnessing the science of radiology to the requirements of archaeology, a subject that traditionally falls within the arts, promises to be the first step in opening up new and unexplored horizons for colleagues in our field.

Until now it has been common practice for archaeologists who wish to analyze finds or establish a fact to hand over the job to a university or private-sector lab, then, upon delivery of the results, publish their conclusions in a paper or report. In other words, they go about their research without the foggiest idea of the analytical techniques used to obtain the results that support it. In working with Professor Masayuki Uda of Waseda University’s School of Science and Engineering, and various other investigators over the past two decades, I have become increasingly convinced of the need to remedy this one-way communication process, whereby one side simply accommodates to the wants of the other. Unless something is done about this state of affairs, archaeology will never be able to fulfil its true potential.

The public regards archaeology as little more than the art of excavation. Yet, the word “archaeology” itself has nothing to do with excavating, as a glance at the etymology shows that it means simply the study of ancient things. It would not be so bad if just the person in the street were under this delusion; but even the majority of archaeologists themselves share the misguided notion of themselves as just glorified diggers. What excavation really entails is the discovery of fresh evidence and data that no one else has.

This does not imply that all an archaeologist has to do is to identify a site using

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this or that technique or dig up everything he can — and if he finds something big, well, so much the better. That is mere excavating. Japanese archaeology currently devotes much of its energy to salvage digs supervised by the local authorities on sites slated for development. This system of government-run excavations certainly had a role to play back in the days when the Japanese economy was steadily expanding, but surely it is time to bid farewell to the old ways. Individual archaeologists should rather be systematically pursuing specific interests.

The archaeologists of tomorrow will need to take advantage of their own planning and organizational skills to discover new sites. Moreover, they will need to excavate them with painstaking care and analyze the structural remains and objects they uncover from a host of angles. Devastation of the environment is of global concern these days, and non-destructive methods of exploration are indispensable, among other things, to help preserve the planet. That is where techniques like X-ray analysis come into their own. Traditionally the archaeologist’s job was completed once he had published the results of the dig or provided a briefing, but now it is of growing importance to post findings on the Web, where they can be accessed from across the globe. It is thus of the essence. The task facing us is to transform archaeology into a complete discipline in its own right.

The first step in achieving that goal is to turn archaeology into a science. Japanese universities stick archaeology in among the arts, which is a source of profound embarrassment. If archaeology is an art, then who can find any fault with the man who fabricated findings of Stone-Age implements in a series of incidents that sent public mistrust of the discipline soaring? After all, art is all about fabrication. That fact alone demonstrates the necessity of making archaeology a science.

Objectivity is among the keys to elevating archaeology to a science. Individual observation is not enough. Everyone must be able to obtain the same results under the same conditions: that is the cornerstone of science. Also important is interdisciplinary research involving the fusion of arts and sciences being promoted by this symposium. I have advocated this goal throughout the forty-odd years I have been involved in Egyptian archaeology, and I believe that it is real progress to have been able to organize this conference with Professor Uda.

Next, I will provide a breakdown of scientific work that has been done in Egypt by my own institution, the Waseda University.

We are currently conducting research in four locations, Giza, Abusir, Dahshur, and Luxor. In Giza we investigated the interior of Khufu pyramid and examined his Solar Barque using electromagnetic radar waves. Once we get things organized, we plan to carry out further investigations on the Solar Barque. We identified a set of archaeological remains at Abusir-South by using electromagnetic underground radar and a second set of remains at Dahshur North by analyzing satellite images. We have also conducted several projects on the West Bank of the Nile at Luxor, a town 700 km south of Cairo. At present we are doing restoration and conservation work on the tomb of Amenhetep III in the west branch of the Valley of the Kings.

The Egypt Archaeological Mission of Waseda University first landed in Egypt 36 years ago, in 1966. Our debut project was a general survey by jeep, performed with the late Kiichi Kawamura, who was then studying occidental archaeology at the