Archaeology: An Introduction for Elliot Park Volunteers

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Archaeology is a complex discipline that partners with many other disciplines -- from physics to mythology, ballistics to architecture -- to study the past. The basics of archaeology, however, are not so very difficult. That's the topic of what you are about to read.

If you take some time to read this carefully and think about it, you'll find that you get more out of the excavation. It will make more sense to you, and you'll be able to better understand the things we find.

First we'll look at a definition of archaeology, and explore what that definition really means. Then we'll look at a few specialized terms and ideas that will come up during the excavation. That's it -- not too scary.

What is archaeology?

There are only three important parts to a basic definition of archaeology.

First, archaeology is **the study of the human past**. Sorry, no dinosaurs -- that's part of paleontology, a branch of geology. Archaeology is also more than treasure hunting. Treasure hunters look for things, often valuable things; archaeologists look for information.

Second, archaeology is the study of the human past, **based on its physical remains**. Historians work mostly from documents -- records, letters, paintings and so on. Archaeologist work from objects -- ceramic sherds, glass bottles, stone tools, remains of buildings.

Third, archaeology is the study of the human past based on its physical remains, **and their contexts**. It's one thing to find a rock in the ground. It's another thing to find a dozen rocks arranged in a circle, surrounding a lens of ash and charcoal.

The summary so far: Archaeology is 1) the study of the human past 2) based on its physical remains 3) and their contexts. Fine. What does that mean and why does it matter?

Glad you asked. Let's discuss those three points in a little more detail.

The first point is fairly straight forward: Archaeology is the study of the **human past**. That takes us back quite a ways, and covers a lot of ground. Worldwide, archaeologists usually work with the last 2 to 2.5 million years. In the Americas, archaeologists concentrate on the last 13,000 years or so, although there are hints that people were here before that. In the neighborhood, I suppose we'll be sticking quite a bit closer to the present. Archaeology also deals with a lot of topics -- anything, in fact, that is part of human history. That covers topics as diverse as technology, religion, medicine, science, architecture, transportation, communication, diet, agriculture.... It's a long list.

The second point isn't especially complicated: Archaeology studies **physical remains** of the human past. People make and change a lot of things in the physical world around us. What we commonly think of as artifacts are the things that people make -- bottles, arrowheads, buttons, coins. But people also make changes to the physical world that aren't exactly objects. We plow fields, dig holes, drain swamps, build dams, build hills, quarry rock. Such activities also leave tangible physical remains that are studied by archaeologists. We'll find examples of such kinds of remains on the Portland Avenue site. There might be trash pits, for example, or utility trenches.

Photo: Merrily Helgeson

The third point takes a little more consideration: Archaeology studies **context**. Let's look at a couple examples. The first comes from our own everyday life. Suppose that we have six each of plates, glasses, knives and forks. What does that tell you? Well, it depends on the context. Imagine that these items are spread out around a table, in six sets that each consist of one plate, glass, knife and fork. According to the context, I'd say that someone has set the table for dinner.

Now imagine that instead you find the plates in a stack, the glasses in two stacks, the knives in one pile and the forks in another. Maybe someone took them out to set the table, or maybe they've been washed after a meal and are ready to put away. If we had more information on the context, we could probably tell which of these two interpretations is true.

Let's look at a more typical archaeological exam-

ple. Image that you are excavating a trash pit on a prehistoric site. It was filled up with garbage one load at a time over the course of a few years. The materials on the bottom are the oldest. We excavate it from the top, meaning that we excavate from newest to oldest. If we dig and observe very carefully, we can distinguish one load of garbage from another and excavate each one separately.

Later we analyze and catalog everything we recovered from the garbage pit. Most of the individual loads of garbage -- each of the contexts -- contain bits of broken pottery that indicate it came from a period of about 1100 to 900 years ago. Some garbage loads -- contexts -- contain pits from fruit that ripens midsummer. Other contexts contain bones from fish that are caught in the fall. By looking at the seasonal cycles, we can tell that the pit was filled up over a span of about three years. By looking at the style of the pottery, we can tell that those three years were some time during a period of about three hundred years, 1100 to 900 years ago. We might also have discovered that people ate plums with sturgeon, squash with turtles, and cooked these foods in ceramic pots that each held about a gallon.

One more time: Archaeology is the study of the human past based on its physical remains and its contexts. Does it make a little more sense now?

Other Ideas and Terms

There are a handful of terms that will be used on the excavation and that you should know. It will help you in following the discussions about what is being found, and help you in taking notes about what you found.

The first is "**stratum**." It's a Latin word that basically just means layer. Because it's Latin, the plural is "strata." The related term "stratigraphy" refers to the sequence of layers in a site.

The second is "**unit**." A standard excavation unit measure 1 meter square -- just over one yard. A unit is normally excavated stratigraphically -- one stratum (or layer) at a time. If there are no visible strata, the unit will be excavated in arbitrary "**levels**." They are each the same depth (often 5 centimeters, or about 2-1/2 inches), and are dug so that each level is flat across the bottom. This helps in reconstructing any invisible stratigraphy.

Each unit is located within a "**grid**" that is based on distance and direction from a "**datum**." Datum first: this is another Latin word, in this case meaning a point. We will pick a stable landmark close to the site and call it the site datum, or standard reference point. This might be a corner of a building that isn't going anywhere any time soon. From that point, we will lay out a grid of points based on the distance and direction from the datum. For example, if we say that the datum is 0, 0 (zero, zero), the grid will be a set of imaginary lines every meter south of that point, and every meter west of that point. I say imaginary lines because most of them will not be marked. At certain locations, however, a stake will be pounded into the ground at the intersection of two of these meter lines, and marked with a grid name: 5 west, 9 south, for example. Each unit is named for the grid point at the southeastern corner of the unit, and this number is used to label everything associated with that unit -- artifact, notes, photos, maps and so on.

The final term may seems strange at first, but quickly becomes familiar. That term is "**feature**." We're all familiar with the term "**artifact**." That's a tangible, solid and portable object like a bottle, a brick, or a can. You can pick it up, measure it, and weigh it. Archaeologists are also very interested, however, in what we call features. Features are distinctive, significant associations of objects and materials. The trash pit discussed above, for example, is a feature. So is a fire hearth, a utility trench, or a pile of foundation stones. Each of these has the potential to provide helpful information about the site and what went on there. The feature, however, is not a single object. You can't pick it up, handle it or weight it.

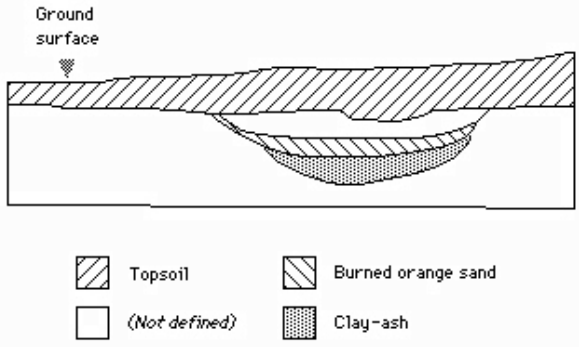

Figure 12. Profile Drawing of Unit 11, SE Wall, Including Undesignated Feature

Equipment, Procedures and Precautions

Finally, it may help you to know a few other things about what will be going on around the site during the excavation. Archaeologist have two basic digging tools -- a **shovel** and a **trowel**. Excavation usually begins with a shovel, a familiar tool. The difference between ordinary shoveling and shoveling on an archaeological site, however, is important.

With ordinary shoveling, the goal is to get done

shoveling. In excavation, the shovel is a tool to help you discover and observe what is in the ground. While it can be good to keep moving dirt, observation and discovery are always more important. Thus slower, more careful or more difficult excavation is usually done with a trowel. Trowels are actually made for laying and smoothing mortar or cement, but they are also ideal for archaeological excavation. The only real difference between a bricklayer's trowel and an archaeologist's trowel is that the archaeologist's trowel has been sharpened along both edges, so that it can be used to slice or shave through the soil. It's also very handy for pushing soil around, and putting loose soil into buckets.

The **screen** is also an important tool. The screen is basically a shallow wooden box on legs, with no top and with a bottom that is made of wire mesh. Excavated soil is dumped into the screen; the soil goes through the wire mesh, leaving artifacts and other larger items resting on the mesh. This greatly improves the rate of artifact recovery.

You'll notice that a lot of site time is spent not on digging, but on recording. In a sense excavation destroys the site -- slowly and systematically, no doubt, but it destroys the site. Therefore the site has to be carefully documented as excavation proceeds. Usual site records include **notes**, **color slides**, black and white print **photos**, plan **maps** (of a horizontal surface), profile maps (of a vertical surface), and even the **labeled bags** that hold artifacts and other samples. As a volunteer, you can help in creating the site notes, and may have a chance to help with other documentation if you like. There's one thing to keep in mind about the documentation: It will be permanently stored with the artifacts, and will eventually be the only record of what was done at the site and of what it all means. Many times I have referred to notes that were made 80 or 100 years ago, and really appreciate the researchers who have taken the time and care to leave good, careful records.

OK, that's it. **Welcome on board** -- we're really pleased that you want to be part of this project. We'll try our best to make this a real learning experience, and I think we're all going to have a great time.