

## Teaching archaeology to first-year students: reflections and suggestions

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## Teaching Archaeology to First-Year Students: Reflections and Suggestions

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### Introduction

In the following commentary, I report on my experience in teaching archaeology to first-year college students at Miyazaki International College (MIC) in the last two years. In introductory anthropology courses I attempt to teach basic concepts and archaeological ways of thinking in order to show students how archaeology works.

I first approached the task of teaching new concepts to first-time learners by giving them a general statement of a concept. First-year students at MIC, however, had two kinds of difficulty with this approach. First, since they have no previous exposure to archaeological concepts, it is very difficult for them to understand the relevance of a general description. This is a cognitive difficulty. Second, totally new concepts are described in their non-native language. Although the language describing the concept may not be very complex, it seemed that many students could not "visualize" the concepts. They struggled to overcome the "mental block" created by unfamiliar words and to understand what the description really meant.

I experienced that certain assumptions about conventional strategies in teaching were not always effective. Archaeology is mainly the study of the past. It studies old things. The concepts of archaeological method and theory have been developed to study material remains hundreds or thousands years old (Rathje and Schiffer, 1982; Thomas, 1979). In order to explain one of these concepts, a most straightforward way to teach archaeology is to give students a general definition of the concepts and to provide illustrating examples. Conventional examples include pithouses, ceramic pots, chipped stones, and bones for they comprise a large part of the archaeological record.

This seemingly reasonable scenario did not work very well with MIC students, or at least did not work as well as I expected. The problem that prevented students from understanding archaeological concepts and archaeological reasoning seems to be, at least in part, that students could not relate to terms such as "pithouses," "ceramic pots," "chipped stones," and "bones" in either English or Japanese. Most students have never seen a pithouse; the only earthenware that they know which resembles archaeological ceramics is flower pots; they don't use tools made of rocks; and all bones are carefully removed from meat they eat by butchers, retailers, and even their mothers. In short, such material remains seem too remote for contemporary Japanese students to understand well. Instead of using genuine archaeological cases for illustration, I found that modern "pseudo archaeological examples" do the job and more. Next, I illustrate the kinds of examples that I use in the class to teach students the fundamental principles of archaeological thinking.

### Behavioral Inference: An Example

The objective of archaeological inquiry is to infer human behavior based on material evidence. The archaeologist selectively extracts information from materials for behavioral inference. Since nobody can directly observe the behavior in question, no matter how much evidence is accumulated, no matter how skillful the analysis of

material remains is, and no matter how insightful the inference made, there will be no definite answers in archaeological inquiry. What matters in archaeological reasoning is not what behavioral inference is made, but how the inference is derived from material evidence available. Therefore, it is the processes of behavioral inference that students need to understand at the beginning of their exposure to archaeology.

One can teach students the structure of behavioral inference by using a *bona fide* archaeological example, such as an excavated room of a prehistoric Pueblo in the American Southwest. Determining the function of a pueblo room by looking at artifacts and facilities in the room is a typical exercise of archaeological inference (e.g. Ciolek-Torrello, 1984). Such a room typically contains many unfamiliar items to students: metate, mano, mealing bins, hearths, and many exotic pots. This kind of example certainly gives students a "feel" of archaeology and the sense of "mystery" of the past, something which inspires some students. As a subject for a first-time exercise of archaeological inference, however, it appeared too exotic for MIC students.

Instead, I have turned to asking students to determine the function of something they know, say, "a classroom". Of course, they all know the answer for that question--the function of a classroom is classroom! When students are asked to list evidence to support their conclusion that a classroom is a classroom, they start thinking about the process of their reasoning. Students may list items found within a classroom, such as a blackboard, the kind of chairs and desks, the number of chairs and desks, the spatial configuration of the furniture, the kind of doors, and the size of the room. In effect, students begin to explicate their taken-for-granted understanding of the meaning of cultural objects and concepts. As a teaching method, the initial question to "infer" the function of a classroom has two definite advantages over introducing genuine archaeological examples to first-year MIC students.

The first advantage of the pseudo archaeological case is that its answer is available directly. Once students understand the processes of archaeological inference, it is important to compare alternative conclusions and show them that there will be no definite answers. For first-time learners, however, it is not easy to learn the procedure while they attempt to make educated guesses using evidence. They are easily side-tracked. One can eliminate the uncertainty involved in guessing by presenting students with illustrations within their personal realm of experience. Since they already know the answer, their cognitive energy is more directly spent on figuring out the process of reasoning.

Once they understand the basic structure of archaeological inference, making an educated guess based on material evidence, then they need to understand how the archaeologist links the static material in the present to the dynamic behavior in the past. The linkage is often made unconsciously, even by professional archaeologists (see Binford, 1981; Schiffer, 1976 for discussion of this linkage). It is a good idea to think about how this linkage is made in order to understand how archaeology works. This linkage is possible because the archaeologist possesses certain knowledge related to material evidence. In other words, prior knowledge is a precondition for archaeological interpretation. For example, the presence of a blackboard supports the inference of "classroom" because "student archaeologists" know about the object called blackboard: how the object would be used, what kind of people would use it, and so on. The material-behavior linkage is made when behavioral knowledge related to the object and other material evidence points toward a behavioral complex usually occurring in a space called a classroom.

The second advantage of using an example familiar to students is that students can use their prior knowledge and they don't have to spend time to obtain a lot of "facts" from reading. After going through the process of archaeological inference in detail, at least some students start realizing why "inferring" modern behavior is easy for them. This is because they "know" artifacts that they deal with in a modern

case. They intuitively use their background knowledge to link material evidence and behavior. This is called "common sense" analogy (Chang, 1958, p. 298). When one student noticed they were using a common sense analogy, the student asked whether it would be possible for an archaeologist in the future to infer the function of the classroom. The cognitive distance between this realization and what one needs to do to make sound behavioral inference on prehistoric material is not very far. All this student needs to do is to put herself in the future archaeologist's shoes.

## Reflections

There is no question in my mind that seeing, touching, and thinking about something strange from a long time ago causes "primitive excitement". Trying to answer an unanswerable question challenges our mind. Therefore, it is important for me to remember how I was inspired to study archaeology when I teach archaeology to new students.

In the MIC context, however, I have found that the use of pseudo archaeological examples instead of *bona fide* ones mediates the two kinds of difficulties first-year students are likely to experience: cognitive and linguistic. My modern case example—the classroom—eliminates the worry about reaching conclusions and students can concentrate on thought processes. Because of the foreign language proficiency levels of new students, I have found it difficult to give students a substantial amount of new information by assigning readings. Moreover, assigning only English-language reading at their level would be boring. Since all students have gone through lower, middle, and high schools, they have accumulated a lot of knowledge, much more than they are capable of expressing in English. If I can tap into this pool of potential resources, the class can be more enriched. The use of modern examples, with which they are familiar, is an attempt to move in this direction.

Cognitive and linguistic difficulties are, of course, related to a certain extent, but they should be treated differently. The linguistic proficiency of first-year students may not be as high as high school students who are native speakers of English, but their cognitive level is that of college students. I, as a teacher, should challenge students mentally in relatively simple language rather than treat them as if they are "mentally challenged" because of their linguistic skills.

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