The Epistemology of Archaeological Perception

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Archaeology is primarily an epistemologically realist enterprise; it seeks to use the senses, especially vision, to learn things about the traces of the past which are available to us in the present. From these traces, most archaeologists (with a few notable exceptions such as Shanks and Tilley, 1992) would insist that they try to find out something real about the past.

There are few remaining naïve realists who treat data as speaking for itself in an unproblematic and objective manner, but in certain respects this is still common at an implicit, untheorised level (Johnson, 2011). One example lies in the perceptual roots of archaeological knowledge creation; much work presupposes that past peoples perceived in the same way as modern western people. However, whilst humans are genetically much the same now as 40,000 years ago (Renfew, 2005), the fact that they were enmeshed in different cultures raises the possibility of an as yet unquantified perceptual gap.

A number of archaeologists have discussed issues related to this perceptual gap, often focussing on the landscape, but few have made any attempt to resolve it (See for example Johnson, 2010; Renfrew, 1994; Thomas, 2001). One of the few archaeologists to do so is Zubrow (1994), who posited universal cognitive principles which exist in all peoples at all times, however, he offers no justification as to why any such universals should exist. Just as we require a theoretical framework to deal with data appropriately, so we need a perceptual one. As it currently stands we have no such framework to underpin archaeological epistemology; therefore a proper investigation of perceptual research is required.

Perceptual Research

Internalist perceptual theories ,such as psychological empiricism, can imply that perception is directly affected by cultural background, since they involve the construction of mental models informed by past experience. Externalist approaches, such as ecological perception, treat the world as its own best model and may indicate that perception is cross-cultural. Just as perceptual theories offer contrasting views of cross-cultural perception, so too do perceptual experiments. Whilst experiments using artificial stimuli (See Fig. 1) offer differing results (See for example Hudson, 1960;

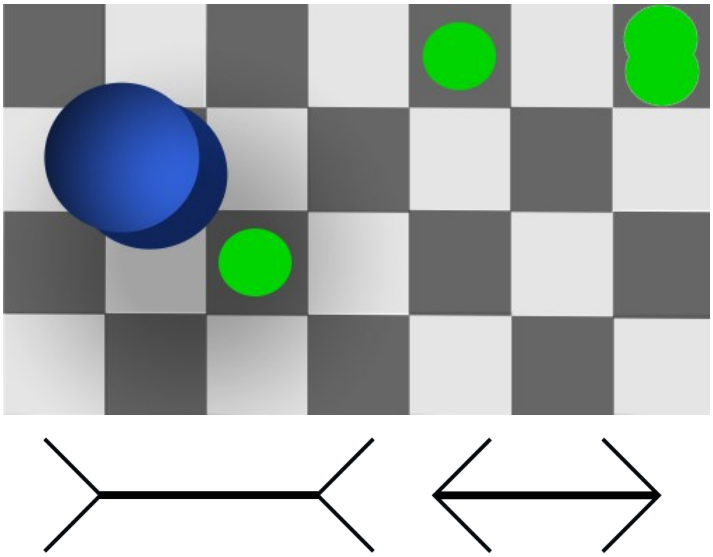

Figure 1– Examples of the kind of abstract stimuli often used in perceptual research. In the top image both spots are the same colour as shown by the overlapping spots. The bottom one appears lighter as everything around it has been darkened as if in shadow, whilst it has not. In the Müller-Lyer illusion below, the different fin orientation makes the left line seem longer. Neither of these work in the real world.

Jahoda and McGurk, 1974), those using non-artificial stimuli show that some aspects of perception are present at birth or undergo early self-driven development (Gordon, 1989). To some degree then it seems that perception is innate and therefore cross-cultural. There are however major issues with making use of perceptual research:

- Cross-cultural experiments have often used artificial stimuli, not real world situations
- Perceptual research can only ever be performed with modern people
- Archaeologists seek to understand past people

In order to quantify the potential perceptual gap we must therefore make use of one of the fundamental premises of archaeology, uniformitarianism.

The Epistemic State of Archaeology

Uniformitarianism, the idea that processes occur in the same way at all times, could allow us to argue that if culture has no effect on perception today, then neither should it have done in the past. If the reverse is found to be the case, then our ability to make meaningful statements about the past would be considerably reduced. Archaeology is reliant on uniformitarianism; it is a logical assumption which must be made in order to undertake any research (Bahn, 2005: 206) and thus its use in this context should not be considered problematic in

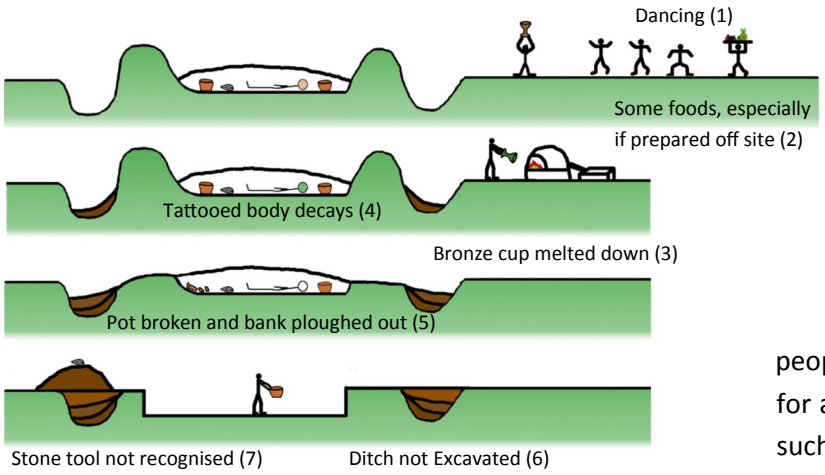

Figure 2- The transformation of a living culture into the archaeological record. Based on points 1-7 made by Collins (1975)

itself. It does however open up any perceptual framework to potential problems; if the perceptual processes of archaeologists and past people are the same, but the input is different (archaeological record vs. past living culture) then the output (perception/interpretation) will be different too (See Figs. 2 and 3). This is essentially a matter of the representativeness of the archaeological record, but it is a problem already present in archaeology.

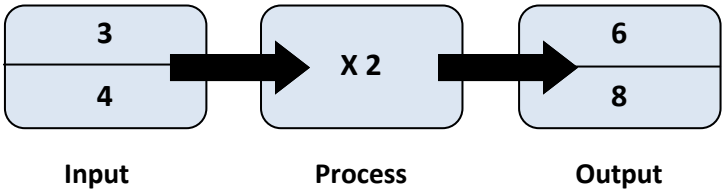

Figure 3– The effect of input under the same processing conditions

If we were to reject this notion of perceptual unity archaeologists would still have to work around the problems inherent in the archaeological record, but without any framework to relate their interpretations to those of past people. This would involve both data and interpretations of that data which relate to the past in an unknown way. If we accept this use of uniformitarianism however, archaeologists must only deal with a single unknown, the representativeness of the archaeological record, which whilst never fully quantifiable is increasingly definable, allowing us to make increasingly more accurate interpretations. With the current epistemological state of archaeology, with its two unknowns, no amount of additional data, refinement of technique, or new theories will allow us to do this.

Since most cross-cultural work uses artificial stimuli their results can be questioned, and so ecological perceptual experiments could help clarify cross-cultural issues. Such an experiment, involving people from a broad range of cultural backgrounds with a range of archaeological knowledge, would allow us to quantify the potential size of the perceptual gap between archaeologists and the

1. Not all behaviour results in patterned material culture
2. Of those that do, not all can enter the archaeological record
3. Of those that can, not all will
4. Of those that do, not all will be preserved
5. Of those that are preserved, not all survive indefinitely
6. Of those that are preserved, not all will be uncovered by the archaeologist
7. Of those that are, not all will be recognised or identified

people they study, and know how accurate it is possible for archaeological hypotheses to be. The methodology of such an experiment could also potentially be used to test previous hypotheses about a landscape, and serve as a crowd sourced interpretation methodology, avoiding the biases inherent in data collection.

Outcomes

If culture is found not to effect perception, or not to effect certain aspects of it, we can be confident in our interpretations, so long as we focus on these aspects. If it does however, archaeologists must take one of two paths, either follow Shanks and Tilley (1992) and accept archaeology as being about the present, or work with an increasingly definable multiplicity of potential pasts. Note that this would not be a descent into relativism, but would simply acknowledge that we could no longer propose a singular view of the past. Ultimately this would leave archaeology no worse off than it currently is, but would entail accepting that it involves unresolvable unknowns, and adjusting its aims and practice accordingly. There is of course a third option of ignoring the result and carrying on as if there were no problem at the heart of archaeological epistemology, as is the current trend. It is hoped that archaeologists would have the courage not to follow this course however. The final potential outcome is an inconclusive result, and whilst this would be undeniably disappointing, the experiment would still have value as a step towards an appropriate methodology for investigating this important issue.

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