# COMMENTS ON 'ASSESSING AND MEASURING: ON QUALITY IN DEVELOPMENT-LED ARCHAEOLOGY'

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As the authors rightly say, "It can never be said too often that archaeological excavations cannot be repeated" (Andersson *et al.* this volume, p 22). Each archaeological excavation is unique. This is one of the few things the archaeologist knows beforehand. Over the years, many sites have been irreparably destroyed by clumsy or careless excavation. The possibilities of revisiting such sites in order to gather new information about the various strata are slim. If further information cannot be obtained, each excavation becomes a study of a unique occurrence. This puts archaeology on a par with many of the humanistic disciplines, where the events to be dealt with also present themselves as unique occurrences. So maintaining quality in archaeology cannot be done in the same way as maintaining quality in the natural sciences. In the natural sciences, quality is to a great extent about guaranteeing reproducibility of results and methods. Another researcher should be able to do exactly what I did, and (at least ideally) get the same result. This is not the case in archaeology. But archaeology is also different from much of what is being done in the humanities, for two reasons. The first is that many of the methods used are taken from the natural sciences, and the second is that this kind of changing of the object of study, often to the point of destroying it, is not often found in the humanities or social sciences. But it can happen there as well at times, as

when researchers question eyewitnesses about an event. Once the eyewitnesses have testified, their statements will have a tendency to reduce the value of further attempts to question them – there is a strong tendency for eyewitnesses to stick with their original statements. Therefore archaeology faces special problems. These problems may well turn out to be even more pressing for development-led archaeology, due to the special constraints presented by tight schedules and budgets.

So what should be done? These special circumstances make archaeology a special kind of scientific activity, but they do not mean that we have to say that attempts to make archaeology a scientific endeavour are doomed. There is still room for a fertile discussion of ways in which archaeology can be done in a better or a worse manner. But some of the answers available in other disciplines will not be very helpful in archaeology – appeals to repeatability and reproducibility will not be of much help. The usual recommendations in the humanities will also be of little help. In comparative literature, a scholar's interpretation of a poem may not be possible to reproduce – that scholar's starting point is probably not shared by many other scholars, so there will be disagreement from the very beginning. But in this case the scholar's interpretation can at least still aspire to be a contribution of good scientific quality, as long as the steps taken in arriving at the interpretation are accounted for in a systematic and clear fashion so that other scholars can assess them. This is what distinguishes a qualitatively good interpretation from mere subjective venting.

Something like this can be applied to the archaeologist's craft, but the difference lies in the kinds of steps the archaeologist takes as compared with those taken by the comparative literature scholar. The archaeologist makes use of more varied cues; evidence ranges from texts to specific aspects of those very surroundings. Artefacts, results from metallurgy and agriculture are just a few examples of things that can come in handy for the archaeologist who is trying to make sense of an excavation site. This can be done in various ways, and more to the point, it can be done in better or worse ways. A general appeal to the quality of the archaeologist's work is tempting, and perhaps necessary, here, but what does it mean more precisely?

The authors write that the regulations concerning development-led archaeology provide a two-step definition of "quality". First, there is a more general definition of what quality is supposed to mean:

> [A]ll the factors upon which the county administrative board places significance when judging a project design: an investigator's competence and organisation, scientific quality, long-term dissemination of knowledge, etc.

Second, the narrower concept of "good scientific quality" is characterized as

> the use of scientific methods to acquire meaningful knowledge of relevance to authorities, research, and the general public. This requires that the result be made available and useful to the various interested parties. (KRFS 2007:2)

The first, general definition of quality leaves a somewhat unfortunate gap: quality is judged by what the county administrative boards find significant, whereas there is no guarantee that the county administration will have the interest or the competence to fully judge quality. Thus, by making the characterization of quality depend on what the administrative authorities judge to be quality, the authorities cannot (by definition) be wrong about quality – quality just *is* what they deem to be of significance when judging project design. So, incompetent authorities could contribute to damaging a site simply by not having understood "quality" in a useful way. But it would seem that this possibility is avoided by the next quotation, where good scientific quality is understood to include the use of scientific methods. This may well be a very small difference, but it at least indicates that the authorities should be prepared to let the assessment of whether something is of good scientific standing be a matter for scientists, not county administrators.

But what does "scientific methods" mean here? This has of course been hotly debated in the philosophy of science for many years, with a bewildering variety of suggestions as a result. Among the answers, we find Popperian falsifiability – scientific claims are falsifiable, at least in principle (Popper 1959). But it has been known for a long time that falsifiability, while perhaps good general advice for a practising scientist, cannot exhaust the nature of scientific method; there are too many examples of scientific disciplines in good standing that are not falsifiable. Other theorists have gone to extremes: Feyerabend famously held that there is no such thing as *the* scientific method, and hence that there is nothing external we can appeal to when trying to assess whether

something is science, let alone whether something is of good scientific quality (Feyerabend 1975). But surely these are not the only options. An activity can be carried out in better or worse ways, even if there is no absolute demarcation between that activity and something else.

One writer who has attempted to give an account of what objectivity in science amounts to is Helen Longino. In an article (Longino 1998) she sets out some requirements for attaining objectivity in scientific work. Objectivity would be important, because it stands as a necessary requirement for communication between people engaged in the discipline. Without it, we would be back to the subjective venting I spoke of above. The guidelines she provides could work as a starting point for discussion among archaeologists, setting out a kind of discipline-specific canon, as it were, for what "good scientific quality" amounts to in archaeology. Longino claims that the following things must hold:

*First*, there must be accepted ways to criticize evidence, methods, assumptions and arguments. *Second*, there should be shared standards to which the people raising the objections can appeal. *Third*, the scientific community must be receptive to such criticism. And *fourth*, qualified practitioners in the discipline must share intellectual authority among themselves (Longino 1998:181).

All these points merit further discussion in some other setting, but let me finish by at least sketching why these points can be of central importance to good scientific quality. The first claim, about accepted ways to criticize others, is not just a matter of etiquette. You don't have to be particularly nice. The point is rather that, when objecting, there should be some common ground between the parties in the discussion. Without that, we don't even have a subject. This is the rationale for the second point as well. As to the third point, if the scientific community is not receptive to criticism, it has left the scientific endeavour and hardened into a dogmatic sect. The final point is intended to guarantee that there will be no gurus or dictators who set out what everyone is to think.

No doubt there are many examples of scientific activities where these points are not followed. The points spell out an ideal, but the ideal is not impossible to achieve, and it should permeate the scientist's work at all times. Quality in science is to a large extent a question of doing things in the right way.

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