

## **Invasive Sampling *versus* Object Integrity: A Final Response**

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In many respects I found the responses to my paper on the invasive sampling of archaeological collections reassuring. Rehren makes the excellent point that archaeological excavations can only be justified if the maximum information is extracted from the objects retrieved and that to achieve this aim, a full scientific study, often involving invasive sampling, is frequently essential. Schadla-Hall similarly argues that the scientific study of museum collections, with invasive sampling when necessary, continues to be important if the usefulness of the collections in contributing to our knowledge and understanding of the past is to be maintained. Further, Merriman emphasises that curators, conservators and archaeological scientists should all be working towards the common goal of ensuring good research rather than arguing about invasive sampling versus object integrity. However, in spite of these encouraging comments, I am still not entirely convinced that the concerns that I expressed regarding an increasing resistance to the invasive sampling of archaeological collections within some museums in the UK were without, at least some, justification.

However, before reconsidering this core question, I would like to address some of the other more specific topics raised in the responses to my paper. First, although, like many of my colleagues (and that includes museum curators, archaeologists and conservators as well as archaeological scientists), I have contributed in the past to the authentication, and thus the increase in market value, of material that has been illicitly obtained, this is something that I entirely agree is now unacceptable. In response to Merriman and Tubb, I would explain my failure to discuss, in my original paper, the possible risk of sampling illicitly obtained material by the fact that, for technological and provenance studies, it is crucial that the archaeological context of the material examined is known. Therefore, only material that has come from documented archaeological excavations is of interest. Second, in response to Schadla-Hall and Merriman, I do fully accept that the prior submission of a reasonably detailed application form is a crucial element in ensuring that all the conditions, that need to be satisfied before the invasive sampling of museum collections can be authorised, are considered. Of particular importance in this context is a guarantee that the museum will be provided with a full report on the results of the scientific examination as soon as possible and that, where feasible, the samples are returned to the museum for safe keeping. Third, in response to Merriman and Tubb, I again accept that the removal of a sample for scientific examination can necessitate remedial restoration and/or conservation and that the associated budgetary and scheduling implications are often something that the applicant for samples fails to consider. However, in my experience, the number of objects that require remedial work after

sampling is extremely small. The great majority of samples taken for scientific examination are from fragmentary objects and, on the rare occasions when complete objects are sampled, samples can normally be taken from already damaged regions.

Returning now to my primary concern, that there is increasing resistance to the invasive sampling of archaeological collections within some museums in the UK, one question to consider is who might be responsible for this development? Schadla-Hall provides some interesting thoughts on how the training received by curators, combined with changing attitudes towards the way in which objects from the past should be treated, and the effectiveness of “science” in general, might have made curators more reluctant to allow invasive sampling. Tubb similarly emphasises that the training and role of conservators has changed significantly as compared to the past. In this context, having been Keeper of Conservation at the British Museum for a few years, I can assure Tubb that, in making my comment on the conservator’s role in judging the cultural significance of an object and the importance of maintaining its integrity, I was fully aware that conservators now receive extensive academic training as well as still needing to be manually highly-skilled. Further, I have always argued that, because a conservator spends a considerable period of time handling and treating objects, they have the potential to make a valuable contribution to understanding how the objects were made and used. Similarly, they have an important role to play in selecting the site on an object from which to take a sample and, where appropriate, in assisting with the actual removal of the samples. However, I still believe that the final decision on the cultural significance of an object, and thus, whether or not to allow invasive sampling must remain with the curator or the archaeologist in whose care the well-being of the object is vested.

It is perhaps significant that, of the four responses to my paper, that by Tubb is the only one not to emphasise the importance of scientific examination in contributing to our knowledge and understanding of the past. Instead a primary aim of her response appears to be to try to reinforce the role of conservators as key museum professionals. Therefore, I do still believe that, in a very few instances, one encounters an undercurrent against sampling through the activity of one or two people who seem to be actively looking for reasons for rejecting an application for samples. However, I certainly do not want to over-emphasise the problems encountered in obtaining samples for scientific examination from UK museums. Rather, I would prefer to highlight the fact that, in the great majority of cases, one receives positive encouragement to undertake scientific examination from curators, archaeologists and conservators, which is a result of a mutual interest in extending our understanding of the past. In conclusion, therefore, I very much hope that, in the future, this positive response remains dominant and that curators, archaeologists, conservators and archaeological scientists will continue to work together to ensure that research in the UK into ancient technology and trade remains both wide ranging and of the highest quality.