Staffordshire Hoard Research Report 30

The Development and Progress of the Staffordshire Hoard Research Project

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Appendices

The research project that led to the publication of the Staffordshire Hoard was a long and expensive one. It lasted six and a half years and was the result of a collaboration of seven different organisations and a team of more than 50 people.[1] Large teams and lengthy timescales are not unusual in archaeological post-excavation work, but the circumstances surrounding the hoard project did have some unusual aspects. One reviewer of a publication from another long-term and complex project noted that 'the account of the project itself …. sets a precedent which all project reports should follow'.[2] This report presents just such an account. It will explain the background against which the work was conducted, the timetable we followed, why different aspects of the work were undertaken at particular stages, and our attitude towards dissemination. It may be of interest to anyone faced with organising a similar project in the future. It seems unlikely that the Staffordshire Hoard will remain a unique discovery. Given the regularity with which Treasure finds are found by metal detector users, other large and unexpected hoards may well emerge in the future. These will require similar multi-agency responses and similar research projects.

Genesis

In Chapter 2 of the letterpress part of the publication Butterworth has outlined the process that led to Birmingham City Council and Stoke-on-Trent City Council acquiring the Hoard in June 2010. The care of the find was the responsibility of the Birmingham Museum & Art Gallery (BMAG) and the Potteries Museum & Art Gallery (PMAG), both then parts of their respective councils. During the life of the project BMAG became part of the independent Birmingham Museums Trust (BMT) but continued to care for the Hoard. As BMAG already had conservation facilities it was decided that BMAG would lead on the conservation of the pieces, whilst PMAG would lead on developing the research project which would lead to publication. The owners and museums put in place two advisory panels for the research and conservation. The members of these provided advice on how best to proceed with the conservation and the development of the research project.[3]

The excavations of the Hoard site in 2009 and 2010 had been grant-aided by Historic England (HE).[4] This meant that the owners could apply for further grant aid for the post-excavation analysis including work on the finds. With the help of the advisory panels a brief was prepared which outlined what the principle deliverables of the research project would be and what research questions would need to be addressed. The deliverables were defined as follows[5]:-

1. An integrated database of the hoard assemblage, holding all conservation and research information for each object, which will form the fundamental research archive and which will be made publicly available.

2. Scholarly publication consisting of a definitive illustrated catalogue and a series of synthetic discussions addressing the major questions surrounding the hoard. The publication was not intended as a once-and-for-all pronouncement, but as an authoritative point-in-time statement which - backed by on-line dissemination of the archive as a research resource - would stimulate future scholarship.

The research questions were the following.

1 The physical environment of the deposition site and the context of deposition - where and how in the 7th-century

[1] See Appendix 1 for a list of the team members and their affiliations

[2] Hills 2014, 371.

[3] See Appendix 2 for the membership of these panels.

[4] Then English Heritage, but following project conventions the organisation will be known by its current (2017) name throughout this document.

[5] This and the following list are taken from the brief.

landscape was the hoard deposited?

2 How did the hoard come together?

3 What did it comprise?

4 When was it deposited and how old were its components at the time?

5 Why was it deposited?

6 The technological character of the hoard and its components.

7 The hoard and its components as material culture - what are the cultural, economic and ideological contexts and comparanda: what does the hoard assemblage represent?

Any project which HE grant aids has to be compliant with the procedures described in their document *Management of Research Projects in the Historic Environment: the MoRPHE Managers' Guide* commonly known as MoRPHE.[6] HE-funded post-excavation projects normally go through a two-stage process. An Assessment stage evaluates the data against the project aims and develops a project design based on this work for the Analysis stage. That in turn leads on to publication. In this case it was necessary first to develop a project outline based on the brief that that could scope the nature of the Assessment and acquire the resources to conduct it. Stoke-on-Trent City Council applied to HE for funds to produce this outline and the HE project 5892 *Contextualising Metal-detected Discoveries: Staffordshire Anglo-Saxon Hoard* was born.

It was decided that it would be best to appoint an external consultant on a temporary basis to develop the outline. The requirement was that the person should have had experience of successfully managing complex archaeological/ historic environment projects and would have a familiarity with MoRPHE procedures. It was hoped that the person appointed would have some specialist expertise in material culture studies and/or the archaeology of the early medieval period. The brief was sent out to tender in November 2010 with the requirement that the project outline be delivered by late January 2011. The present author was appointed to the role in late December 2010 and went on to become the project manager through the life of the project.

The brief had envisioned a normal two stage Assessment and Analysis project, but eventually it was to become one of three stages. Before discussing the development of the various stages, it will be useful to outline the background within which the project worked. The formal framework for this was the Staffordshire Hoard Programme. Exhibitions and the development of regional tourism based on the Hoard are all part of this wider programme and their requirements had direct implications for the way the research work had to be carried out. The Programme is overseen by the Hoard Management Group (HMG) consisting of senior members of both museums and a representative of HE.

The wider background

Chapter 2 of the letterpress volume has discussed how the exhibitions of parts of the Hoard prior to the acquisition led to expectations that finds from it would continue to be on display after it had been purchased. This was not a find that could disappear from view while it was cleaned and studied. Within the Programme an initiative known as the Mercian Trail brought together the representatives of museums and organisations in the region who had had been active during the fund-raising period. As a result there were smaller displays of parts of the Hoard in Lichfield Cathedral and Tamworth Castle as well as the main exhibitions in Birmingham and Stoke-on-Trent.

The dispersal of the fragments between the venues posed a challenge for the research project. During Stage 1 (2012-14) it was not unusual to realise that fragments from the same object had been provisionally catalogued in two or more different venues. This was obviously problematic from the research point of view, but equally the needs of the research

[6] https://historicengland.org.uk/images-books/publications/morphe-project-managers-guide/

project involved the museums in considerable amounts of work. During Stage 1, when much of the Hoard went to Lincoln to be X-radiographed, the museum personnel had to make and re-make displays constantly to allow items to be rotated. This, it should be remembered in a period of financial stringency when the museums were under considerable pressure due to staff losses. Our debt to the museum staff is very great and they have made an enormous contribution to the success of the final publication.

The need for the Hoard fragments to be transported both for X-radiography and scientific analysis uncovered various problems associated with the fact that we were dealing with accessioned finds predominantly made of gold. Some of these problems were anticipated. The security arrangements which were required at any venue where the Hoard fragments were stored limited the number of places where analytical work could be conducted on them. Some problems were less expected both by the research team and the museum curatorial teams. In part these arose from the different working cultures in the two museums. As this is an interesting point of wider relevance it will be useful to explore our experience, especially as it is a problem that anyone working on material jointly owned by two or more institutions might encounter.

People often assume that the way things are done in their institutions are probably normal for the sector. It started to become apparent in planning the project that BMAG and PMAG had very different protocols for dealing with some activities that would be regular parts of the research. To take the simple example of which museum object could be personally couriered by a museum curator to another venue. It was discovered that there was a very marked difference, based on the value of the object, between the two museums. This had a major impact on the planning of transport costs. Other differences emerged gradually. In the end the problem was solved by the project manager and the curatorial staff having a meeting where the former outlined all the possible activities that the research project might wish to subject the fragments to, and the two curatorial teams discussed what their normal protocols would be. In this way the major differences could be identified and joint decisions made. High level decisions about the joint ownership were made by HMG. Ironing out many small and unexpected practicalities occupied more research project management time than had been anticipated.

Conservation of the fragments had started in BMAG once the Hoard had been acquired and so a conservation team was in place, working under their own manager, before the research project planning started. In the normal post-excavation process such work is collaborative and integrated from the start into the research. Priorities and programmes are decided on by all members of the team. In the case of the Hoard the intense public interest in the find made early cleaning of parts of it inevitable. A major challenge in Stage 1 was the integration of the conservation into the overall research project. This was eventually achieved to the great benefit of the final result, but again probably took more project management time than had been anticipated.

For the first two years of the project the project manager liaised directly with those involved in the various parts of the wider programme, the museum managements and the HMG. The appointment of a Programme Co-ordinator (Dr Jenni Butterworth) at the beginning of 2013 simplified the relationship as there was now a single central point of contact. The research project benefitted considerably from this appointment, especially when complex arrangements had to be put in place as in the case of the 2014 grouping exercise described below.

Assessment (January 2011 to March 2012)

In normal post-excavation assessments a basic finds catalogue would be produced as a basis for the work needed for the analysis. Assessments can also normally draw upon desk-top studies conducted prior to fieldwork to allow the area to be placed in context. It was clear that in the case of the Hoard the Assessment Stage would need to take a different path. A short three month scoping project was planned that would put in place some of the basic information that was currently missing. This would allow an analysis that integrated all the strands of the research, including conservation, to be planned and costed. The project outline for the Assessment Stage written in January 2011 identified six areas where work had to be carried out before an Analysis project design could be written and costed.

It was recognised at an early stage that there were errors in the existing databases recording the Hoard. The correct concordance between the fragment number and where it had been found had been lost and it would be necessary to return to the earliest versions of the database and physically check them against the information written on the bags. This would restore the integrity of the information. This problem had most probably originated as a result of the information having been stored and manipulated in Excel at some point, rather than in a proper relational database. Projects do well to avoid using Excel in this way as, in the experience of the author, it is not unusual for the integrity of data to be compromised like this.

An integrated web-based relational database had to be designed that would be accessible to all the team members and the museum curators no matter where they were located. Part of this work would involve consultation with the wider early medieval scholarly community to decide what would be most useful to record about each fragment.

One aspect that would clearly be of interest was the composition of the gold itself. The best method of analysing this had to be established via a pilot project comparing the surface and sub-surface composition. This would allow the cost of the analysis to be estimated and the agreement of the HMG to any sampling to be put in place.

Two other surveys were also needed. The first was a report on the aerial photographs available for the Hoard site, and the second was to review what sources might be available for identifying relevant occupation in the area.

The final task for the Assessment was assembling a project team that would be able to carry out the research.

Following input from HMG and RAP the project design for this work was submitted to HE in late February 2011. Comments were received at the beginning of April requesting some minor changes. It became apparent, however, that issues around contracts that the owners had signed with third parties meant that HE would not be able to grant-aid Stoke-on-Trent City Council directly for the work. Eventually it was decided to proceed with all aspects other than the gold pilot project whilst the contractual issues were explored. The project manager, who had been commissioned in her role as a sole trader, is also a director of Barbican Research Associates Ltd (henceforth Barbican), a company specialising in bringing problematic archaeological projects to publication. Barbican agreed to host the Assessment project and became the grant-aided body for it. This allowed team members to be paid and for work to progress. The contract was signed at the beginning of June 2011 and HE appointed Kath Buxton as the Project Assurance Officer (PAO). It was agreed that the situation would be reviewed in September to see if the contractual problems had been resolved. Unfortunately by the time they were resolved the laboratory where it had been planned to carry out the pilot gold study, could no longer do it. It was therefore decided to defer the pilot project to the Analysis Stage and to proceed with completing the Assessment and writing the project design for the Analysis. This work was completed and submitted to the HMG and HE in December 2011.

The Analysis project as originally scoped was designed to run from March 2012 to June 2015. The first year would have completed all of the tasks that normally would have been part of an Assessment Stage. So by the end of it there would be an interim working catalogue with photographs, the X-radiography would have been completed, and pilot studies on the gold composition etc. would have taken place. A review period was then envisioned which would allow the work in the following two years to be re-focussed in the light of the first years' work

Owing to the very high cost it was decided to split the Analysis into two stages. A revised project design was submitted in March 2012. This scoped the full project but only costed and timetabled Stage 1 and included provision for the production of an up-dated project design for Stage 2 at the end.

The aims of the project were to find answers for the following questions.

1 What did the Hoard consist of?
2 When was the Hoard deposited?
3 Why was it deposited?
4 What does it tell us about seventh century life?
5 What can we learn from the experience of studying it?

Stage 1 (April 2012 to May 2014)

The Stage 1 Analysis part of the project started in April 2012 and was initially planned to end in October 2013. For this part of the project HE grant-aided Stoke-on-Trent City Council who commissioned Barbican to manage the project. HMG acted as the Project Executive and delegated its quality assurance role to RAP. HE appointed Barney Sloane as the PAO. The main tasks to be completed were the building of the database, completion of the cleaning of the fragments, the X-radiography, the production of an interim catalogue, and the analysis of the compositions of the fragments.

Conservation continued at BMAG and the die-impressed sheet and reeded strip fragments were sent to the Department of Conservation and Scientific Research at the British Museum to be worked on. The conservators there had been involved with advising the BMAG conservators from the outset and they had recent experience of the conservation of a helmet.[7] It was also decided to have all the scientific analyses undertaken in the same department. Again the scientists there had previously been involved with analysing aspects of the Hoard. BMAG had commissioned work there prior to the start of the Stage 1 Analysis using money from a different income stream derived from a grant from National Geographic. These analyses had subsequently been been integrated into the programme of work for Stage 1. As well as providing a wide range of expertise, being part of the British Museum meant that adhering to the Hoard security protocols was not a problem. In an ideal world, some of the scientific analysis might have been more precisely focussed if it could have been delayed until the interim catalogue was more advanced. This, however, was not possible. The Department was due to move to new premises in late 2013 and any work they carried out for the project had to be completed by the summer of that year.

The X-radiography was carried out at the Lincoln Archives. Naturally the choice was governed by the nationally acknowledged X-radiography expertise there, but the fact that they could offer the sort of security the Hoard fragments needed was a great bonus. The location also proved useful for the interim catalogue work as it was closer to where Chris Fern, who was doing this work, lived. Tribute needs to be paid here to the thousands of miles he drove to all the various venues the pieces were located at so he could catalogue and study them.

This Stage had three project meetings. The first two were just for the core Stage 1 team, the museum curators, the editors of the final publication, the project manager and HE's PAO. These meetings were vital for the exchange of information and, possibly more importantly, for team members to be able to meet and get to know each other. With a team scattered around the country this was important if the project was going to develop the integrated approach that was needed. Project meetings are never cheap once time, travel costs and refreshments are factored in, but they are money well spent.

By August 2012 it had become apparent from the initial cataloguing work that it would be necessary to to have all the fragments together for a concentrated grouping exercise which would allow possible joins and associations to be explored. Such an event had not been planned originally because of the commitment by the owners to have parts of the Hoard on display at all times. Discussions started about the possibility of taking the items off display and having a highly focussed two weeks to work on them in a single place. It was a major commitment by the museums as the exhibitions would be closed for a month or more to allow the material to be taken off display, transported and then re-displayed. It was also one that required additional resources.

Over the autumn of 2012 it also became apparent that additional resources would be

[7] Hockey and James 2011.

needed for the cleaning of the fragments as, even with the X-radiographs, there was a limit to the amount of useful progress that could be made with the assessment level catalogue whilst a considerable part of the Hoard remained covered by soil. The X-radiographs made it very clear that many more fragments remained hidden inside items such as pommels. Even knowing the number of fragments the Hoard consisted of was impossible at that time.

After consultation with all the interested parties including HE and HMG a Variation request was written and submitted to HE in early December 2012 to put additional conservation resources in place and to develop a new conservation plan.[8] The appointment by BMAG of a new conservation co-ordinator for the Hoard in January 2013 facilitated the development of this plan. With two additional conservators appointed for three months it was possible to estimate that the original Hoard finds would be fully cleaned by October 2013. By the end of 2012, however, additional pieces of the Hoard had been recovered from Archaeology Warwickshire's survey of the field following ploughing. It was known that the owners would attempt to raise the funds to purchase these pieces once the Treasure process had been completed and so any planning for the grouping exercise would have to take the cleaning of these pieces into account. It was decided to revise the finish date of Stage 1 to May 2014 following a grouping exercise in February of that year.

As a result of these changes and organisational changes in the museums relating to the appointment of the Staffordshire Hoard Programme Co-ordinator in January 2013, it was decided that a revised project design would be needed. In February 2013 a Variation was submitted and agreed to. This would pay for additional conservation, the grouping exercise and the additional project management time that would be involved. A revised project design incorporating all of this was submitted by Barbican to their clients Stoke-on-Trent City Council at the end of April 2013. Shortly after this Barbican was notified that the new fragments had been acquired and so the project design was revised again to take this into consideration and re-submitted to their clients at the beginning of June.

Again however we were overtaken by events. Dr Eleanor Blakelock's work during the pilot gold analysis project had discovered evidence of deliberate surface enhancement. As explained earlier all of the scientific work at the British Museum had been planned for completion by September 2013 because of the transfer of the laboratories. By the summer of 2013 the date for that had moved into 2014 and so there was a window of opportunity for additional work. Following a meeting with HE's PAO in June 2013 it was agreed that it would be beneficial to extend Dr Blakelock's contract and expand the programme of analysis to include additional pieces within the Hoard and contemporary goldwork in the PMAG and British Museum collections for *comparanda*. The work was to be funded by HE and the British Museum. This necessitated a third Variation request to pay for the work at the British Museum and the revision of the project design for the final time. This was submitted in July 2013.[9]

Following this the project ran according to the revised timetable, with the grouping exercise taking place as planned in February 2014 and the planning for Stage 2 being undertaken thereafter. This was done in collaboration with the team with input from RPAP and others. The final project team meeting had invited a range of stakeholders including members of the museums' management, members of the advisory panels, and scholars of the period. The results of Stage 1 were reported and the direction Stage 2 should take were discussed. This provided useful insight into what people wanted from the final publication. We had initially planned to issue an interim catalogue at the end of Stage 1 but decided against it when we realised so much joining work would need to be done. This proved to be a wise decision given how long completion of the full catalogue was to take in Stage 2. Ultimately an interim catalogue in the public domain would only have added confusion.

[8] Variation requests are formal documents that lead to changes in the original agreement between HE and the grant-aided body.

[9] Cool 2013.

The project was completed according to the revised schedule and the project design for Stage 2 submitted by Barbican to their clients at the end of May 2014.

Interval between the stages (June 2014 to January 2015)

The project design for Stage 2 was effectively a major revision of that for Stage 1. The aims of the project remained the same but the focus now shifted to the production of the final catalogue, the illustrations that would accompany it, and the full analysis of the pieces. The conservation team moved on from cleaning the fragments to joining them, where possible, to form recognisable objects. At the end of Stage 1 we still did not know with any degree of accuracy how many objects there might be, as opposed to how many fragments there were. This made the costing of various parts of Stage 2 problematic. As an example, the resources for photography were eventually found to have been severely under-estimated. A major focus of the future conservation work would focus on the thousands of small fragments of die-impressed sheet and reeded strip. A good start had been made on the joining work for this at the British Museum in Stage 1 but it was clear that more could be achieved. It was during Stage 2 as well that the team members who were due to write the contextualising essays in the second part of the book would start work.

All of this was was clearly going to be as expensive as Stage 1, but we were aware that there were unlikely to be sufficient resources available to pay for it. For this reason an additional section was included in the project design. Having scoped and costed the project fully, an evaluation of the proposed tasks and costs was provided. This discussed what the impact of excluding some would be on the final publication. It also indicated where, in the project manager's opinion, money should be concentrated should the total sum needed not be available. At a meeting in mid-August with representatives of the museums, HE and the academic editors, the project manager was informed of the size of the funding shortfall. She was invited to identify the equivalent amount of work in the budget which would only go ahead if the owners were successful in fund-raising efforts. A revised project design reflecting this was was submitted at the end of that month.

The Stage 2 project had been costed in a similar way to the Stage 1 work assuming that Stoke-on-Trent City Council would sub-contract the management. It became apparent that due to regulations which local authorities are subject to, the management of the project would have to be put out to tender in this instance if the project continued to be run through Stoke-on-Trent City Council. After discussions amongst the various parties, HE asked Barbican to become the grant-aided body. This entailed another revision of the project design and had serious implications for the budget. As a local authority Stoke-on-Trent City Council had been VAT exempt. This meant that it had not had to charge HE the VAT on the grant aid. Barbican is a commercial company which does have to charge VAT. Stoke-on-Trent City Council had been able to reclaim the VAT it had paid in the normal way and so for Stage 1 the VAT costs had been neutral. With Barbican becoming the grant-aided body it would be charging VAT directly and HE is not a body that can reclaim it. The consequence in the change of the body which was being grant-aided thus effectively doubled the shortfall at a stroke, putting the fund-raisers at the museums under even greater pressure. The revised, and more expensive PD was submitted at the beginning of November 2014. Following minor amendments requested by HE, the final version of the project design was submitted in early January 2015[10] and Stage 2 started.

The change in the grant-aided body meant there had to be some organisational changes in the oversight of the project. HE became the Project Executive and HMG moved to an advisory role. The PAO for HE continued to be Barney Sloane.

Work on the Hoard had not ceased in the second half of 2014. The conservation team at BMAG had continued work and the joining of the fragments had started. During the pause BMT had been awarded a large grant from the Esmée Fairbairn Collections Fund and this had allowed the recruitment of two archaeological scientists to continue the

[10] Cool 2015.

analysis of the metals and organics in the Hoard. Their work was integrated into the planning of the research for Stage 2 and was a great bonus as we had not anticipated having either the resources or the opportunity of developing the analytic work further.

The interval also saw various publications which started to put the results of the Stage 1 work into the public domain.[11] Most notable of these was West Midlands History Ltd's publication of a 40 page full colour booklet entitled *Beasts, Birds and Gods* by Chris Fern and George Speake. This provided an introduction to the animal art in the Hoard that has so fascinated many visitors to the exhibitions.

Stage 2 – January 2015 to June 2017

From a project management point of view Stage 2 of the Analysis was far less problematic than Stage 1 as can be seen by the fact that there was no need to revise the project design during its course. This compares to the three revisions that had been needed in the two years of Stage 1. It had been agreed that fund-raising for the outstanding budget needed would last for the first year of the project, after which there would be a review to see what tasks could be completed and which ones would have to be excluded. Most of the deferred work related to tasks that would have been completed in the second half of the project anyway, but there was one area where it would have been useful to have had the resources to commission work earlier. This was the survey of evidence for contemporary activity in the local area.[12] This had initially been planned as a task to have been completed early in Stage 1 but there had not been the resources to carry it out. It also had to be deferred until we knew if we had full funding in Stage 2. This meant that we did not have this information until October 2016 and this had knock-on effects for the completion of the stratigraphic narrative from the original excavations and for some of the essays in the second part of the book.

On the whole the uncertainty about quite what the budget would be in Stage 2 did not have too great an impact on the final publication. There were some areas that it had been decided to cut in their entirety. One was a detailed recording of the garnets as it could be regarded as a self-contained project that might be attractive to future researchers. The second area was the number of project meetings. It had initially been planned to have a similar number to those in Stage 1 including a large stakeholder conference where the results of the project would be presented close to its end. On reflection it was decided to remove all but one meeting for the team itself which was eventually discovered not to be necessary. The situation by Stage 2 had changed. Instead of the team being scattered in a number of venues around England, most of the work with the objects was now concentrated at BMAG. All the conservation and the scientific analysis was being carried out there and the typological team regularly spent part of the week in the same studio working on the final catalogue. The studio also became the venue for all the photography. In these circumstance communication between team members was simple and face-to-face. The formal meeting in Stage 1 had allowed people to get to know each other and new members of the Stage 2 team were easily absorbed.

Naturally some meetings did take place. There was a series between the project manager and the academic editors to make sure progress towards the final publication was on course. There were meetings between the academic editors and their essay contributors, and the project manager visited the team working at BMAG whenever necessary to talk through particular issues that had arisen.

The project also ran more smoothly because we were able to learn from our experience in the first Stage. A mini-grouping exercise for the die-impressed sheet fragments and the reeded strips was planned from the outset and took place early in the Stage once the additional conservators were in place. We also took advantage of opportunities when they presented themselves. We had not anticipated that there would be another chance to see all of the Hoard together again but January 2016 provided just that. All the pieces were brought together again by the owners so that the insurance valuations could be updated prior to some of them forming part of an exhibition that was to go first to Leeds and

[11] See Appendix 3.
[12] Goodwin 2016.

then to Bristol. Also having the Programme Co-ordinator in place for all of this Stage greatly facilitated its smooth running.

It can be noted that it wasn't until late in Stage 2 that a definitive catalogue was produced. The ongoing work by the conservators and the opportunities such as that in January 2016 meant that new joins were being made until almost the end of the period when the conservators were employed. They left BMT in August 2016 and were finding new objects almost to the end amongst the silver gilt sheet fragments. This meant that converting the database from its end of Stage 1 state to its final form, where the data would be transferred to the Archaeological Data Service, could not take place until the final months of the project.

Few variations had to be requested during the life of Stage 2. One in May 2016 was an accounting exercise, as the owners had successfully raised the outstanding part of the budget and arrangements had to be put in place to transfer the money to HE and ultimately Barbican. The second, in November 2016, requested additional funding for the photography. As already noted this had been extremely difficult to plan for and though some of the additional cost could be found from savings elsewhere, additional resources were needed.

The outcome consisting of all the text and illustrations for the letterpress volume and all of the reports, images and the database for the digital part of the publication were sent to HE in June 2017. The fact that we were able to complete and submit the research in just under eight years from the date when the first pieces of the Hoard was discovered was very satisfactory. The successful completion came about not just as a result of the hard work of the team but also because of the aid of the museums, funders and advisory panels. There was also goodwill from the wider archaeological community which should be acknowledged. People do not exist in vacuums and often have many commitments. Not all of the team worked full-time on the Hoard and their commitments often had to be juggled. During the life of the research project, for example, the project manager worked as a finds specialist on many different projects all with their own deadlines and priorities. A tribute is due here to the managers of those who frequently agreed to re-arrange their deadlines to free time so she could write yet another piece of urgent project documentation for the Hoard project. They too contributed to the rapid pace of the Hoard research.

Dissemination

The publication had always been planned to be an integrated digital and letterpress one. The letterpress was intended to be a well-illustrated, accessible but scholarly treatment that would attract as wide a readership as possible. The detailed specialist parts would be freely available via the Archaeological Data Service (ADS) who would also host the online catalogue. Early in Stage 2 agreement was reached between all the interested parties that the Society of Antiquaries of London would publish the letterpress part. They were the ideal partner as their policy is to make their research monographs available in an Open Access format.

Our final publication would not be available until 2018 at the earliest, and everyone concerned wished the picture of the Hoard that was emerging from the research project to be in the public domain. Barbican took the view that, as this was a find that had been brought by public subscription and charitable grants, was publically owned, and was being researched courtesy of public money, we had a duty to make the information available. We placed details of the project on our website along with the project designs, the details of the team and the Hoard Newsletters. We published eleven of these during the life of the project. Initially they had been designed to keep all the different parts of the team informed about what other parts were doing during Stage 1. It will be recalled that for much of that period work was being carried out by various teams around the country who rarely met. People outside of the team found them useful and so we continued to produce them during Stage 2.

Team members were encouraged to attend conferences and to give papers about their work. We also encouraged them to write articles and submit them to refereed journals. It was felt especially important that the scientific work which was producing such interesting and unexpected results should be published as soon as possible. It had the added advantage that the feedback from the refereeing process itself was useful to the team members. A slight downside to this approach was that journals dealing with archaeological science often want to publish the data and sometimes want to claim copyright to it. This was a tendency that needed to be resisted by the project management. Before the end of the project the team had published four articles in refereed, high-impact, journals. The opportunity had also been taken to place articles in other newsletters and popular magazines.[13]

It was also decided to publish an initial batch of our specialist reports as the Staffordshire Hoard Research Report Series on the ADS during Stage 2. These mainly consisted of the scientific reports that had been generated during Stage 1.[14] The release had to be delayed until late in Stage 2 (February 2017) as it was not until then that concordances of the find number to the final catalogue number could be provided for each one.

Despite our best intentions it might be questioned how much of the information we had released had made its way into public consciousness. A Google search was made with the terms 'Staffordshire Hoard Research' in February 2017 to explore this. The first page of results listed the relevant Barbican web page in fifth place but above it was the Wikipedia entry. Nothing was mentioned there about the research project and its findings. The information it provided about what the Hoard consisted of still related to the original, and now very outdated, 2009 listings published by Leahy and Bland.[15] All this despite the most recent editing date of the entry being 30th January 2017. Wikipedia is frequently the first choice for anyone seeking information on the internet so this finding was slightly depressing. As we have not had a policy of editing the Wikipedia entry, the current one represented what the outside world knew or was interested about. Should other project managers in the future be dealing with similar high profile finds like the Staffordshire Hoard, they might be well advised to build in time in their estimates to do such editing if they wish to disseminate the results during the life of the project. The early release of the bulk of the research reports did appear to be a useful way of informing the wider scholarly community of the ongoing research as during the first three months of their availability there were over 500 downloads of files.

[13] See Appendix 3 for details.
[14] See Appendix 3 for a list of these.
[15] Leahy and Bland 2009.

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Appendix 1: The Research Team
The stage of the project the individual was involved in is shown in brackets. All team members employed within BMAG are shown with the affiliation Birmingham Museums Trust (BMT) which was created during the life of the project.

Central services

Project Manager	Hilary Cool, Barbican Research Associates (all)
Newsletter editor	Stephanie Rátkai, Barbican Research Associates (Stages 1 and 2)
Finance	Peter Guest, Barbican Research Associates (all)
Secure database	Bryan Alvey (all)
Database assistance	David Griffiths (Stage 1)
X-radiography	Michelle Johns, Lincolnshire Archives (Stage 1)
	Rob White, Lincolnshire Archives (Stage 1)
Copy editing	Val Kinsler (Stage 2)
Photography	Guy Evans (Stage 1)
	Lucy Martin, Cotswold Archaeology (Stage 2)
	Aleksandra Osinska, Cotswold Archaeology (Stage 2)
Illustration	Ian Dennis (Stage 2)
Museum liaison	Sam Richardson, PMAG (Stages 1 and 2)
Academic editors	Chris Fern (Stages 1 and 2)
	Tania Dickinson (Stage 2)
	Christopher Scull (Stage 1)
	Leslie Webster (Stages 1 and 2)
Science editor	Marcos Martinón-Torres (Stage 2)

Conservation
This was co-ordinated by Deborah Cane (2011-2) and Pieta Greaves (2013-6). Only those directly employed are listed. We should also thank here the many interns and placement students who came to work on the material as part of the BMT outreach programme.

Duygu Camurcuoglu, British Museum (Stage 1)
Giovanna Fregni, BMT (Stage 2)
Kayliegh Fuller, BMT (Stage 2)
Natalie Harding, BMT (Stage 1)
Marilyn Hockey, British Museum (Stage 1)
Ciarán Lavelle, BMT (Stage 1)
Graeme McArthur, British Museum (Stage 1)
Deborah Magnoler, BMT (Stage 1)
Lizzie Miller, BMT (Stage 2)
Fleur Shearman, British Museum (Stage 1)
Cymberline Storey, BMT (Stage 2)

Scientific Analysis
Janet Ambers, British Museum, (Stage 1)
Ellie Blakelock, British Museum and BMT, (Stages 1 and 2)
Caroline Cartwright, British Museum, (Stage 1)
Marei Hacke, British Museum, (Stage 1)
Susan La Niece, British Museum, (Stage 1)
Peter McElhinney, BMT, (Stage 2)
Marcos Martinón-Torres, UCL, (Stage 2)
Andrew Meek, British Museum, (Stage 1)
Aude Mongiatti, British Museum (Stage 1)
Rebecca Stacey, British Museum (Stage 1)

Typology and art history
Chris Fern, Fern Archaeology (all)
Richard Gameson (Stage 2)
George Speake (Stage 2)
Niamh Whitfield (Stage 2)

Excavation, survey and site background
Eamonn Baldwin, AJ Archaeology (Stage 2)
Henry Chapman, University of Birmingham (Stage 2)
Alison Deegan (Assessment and Stage 1)
Nigel Dodds, AJ Archaeology (Stage 2)
Jon Goodwin, Stoke-on-Trent City Council (Stage 2)
Alex Jones, AJ Archaeology (Stage 2)

Background Studies
Svante Fischer (Stage 2)
Peter Guest, Cardiff University (Stage 2)
Matthius Hardt, Universität Leipzig (Stage 2)
John Hines, Cardiff University (Stage 2)
Alan Thacker, University of London (Stage 2)
Barbara Yorke, University of Winchester (Stage 2)

Legacy
Jenni Butterworth, BMT (Stage 2)
Pieta Greaves, BMT (Stage 2)
Deb Klemperer PMAG (Stage 2)

Appendix 2: The Advisory Panels

For the first two years of the life of the of the research project there were separate research and conservation advisory panels. From January 2013 there was a single panel consisting of conservation, scientific and period specialists and representatives of the two museums.

Research Advisory Panel (RAP)
This was in existence from 2010 to December 2012 and was chaired by Deb Klemperer from 2010 to April 2011 and by by Leslie Webster from June 2011 onwards. The membership was as follows:-

Professor Nicholas Brooks (from June 2011);
Dr Catherine Higgit;
Deb Klemperer (representing PMAG);
Dr Kevin Leahy;
Dr Sonia O'Connor (from June 2011);
Professor Chris Scull (resigned April 2011);
Dr. David Symons (representing BMAG);
Dr Gabor Thomas (from June 2011);
Professor Leslie Webster.

Conservation Advisory Panel (CAP)
This was in existence from 2010 to December 2012 and was chaired by Deborah Cane. The membership was as follows:-

Deborah Cane (representing BMAG);
Dr Dinah Eastop;
Liz Goodman;
Karla Graham;
Marilyn Hockey;
Jean Milton (representing PMAG);
Hazel Newey;
Liz Pye ;
Dr Sonia O'Connor;
Janine van Reekum;
Fleur Sherman;
Dr Siobhan Watts.

Research Project Advisory Panel (RPAP)
This was in existence from January 2013 and thereafter throughout the life of the project. It has had three chairs, Leslie Webster (2013-4),. Tania Dickinson (2014-5) and Sam Lucy (from 2015) The membership was as follows:-

Deborah Cane (representing BMAG to 2016);[16]
Professor Nicholas Brooks (†2014);
Dr Tania Dickinson (2014-2015 thereafter a member of the project team);
Karla Graham;
Dr Catherine Higgit;
Dep Klemperer (representing PMAG);
Dr Kevin Leahy;
Rob Lewis (representing BMAG from 2016);
Dr Sam Lucy (from 2015);
Hazel Newey;

[16] Deborah Cane and David Symons were the joint representative for BMAG with only one attending a meeting at any one time.

Dr Sonia O’Connor;
Professor Joanna Story (from 2015);
Dr. David Symons (representing BMAG, retired 2015);
Dr Gabor Thomas;
Professor Leslie Webster (to 2014 thereafter a member of the project team);
Professor Barbara Yorke (to 2014 thereafter a member of the project team).

Appendix 3: Publications

Articles in journals and magazines
The following are the publications by team members drawing directly on the work they have conducted during the project. * before the title indicates the work was peer reviewed.

Allpeter, R., Fern, C., Fuller, K., Greaves, P. and Miller, L. 2015. 'The assembly of the Staffordshire Hoard objects', *News in Conservation October 2015*, 7-10.

Anon. 2014. 'Secrets of the Staffordshire Hoard. Skills of the Saxon smiths revealed', *Current Archaeology* December 2014 Issue 297, 12-5.

*Blakelock, E. S. 2016. 'Never judge a gold object by its surface analysis: a study of surface phenomena in a selection of gold objects from the Staffordshire Hoard' *Archaeometry* 58, 912-29. (published online 2015 doi: 10.1111/arcm.12209)

*Blakelock, E., La Niece, S. and Fern, C. 'Secrets of the Anglo-Saxon goldsmiths: Analysis of gold objects from the Staffordshire Hoard', *Journal of Archaeological Science* 72 (August 2016), 44-56.

*Butterworth, J., Fregni, G., Fuller, K. and Greaves, P. 2016. 'The importance of multidisciplinary work within archaeological conservation projects: assembly of the Staffordshire Hoard die-impressed sheets', *Journal of the Institute of Conservation* 39, 29-43.

Cool, H. 2015. 'The Staffordshire Hoard', *Historic England Research* 2, 3-7.

Fern, C., Greaves, P., Klemperer, D. and Symons, D. 2014. 'Rethinking the Staffordshire Hoard', *Current Archaeology* May 2014 no. 290, 12-7.

Fern, C. and Speake, G. 2014. *Beasts, Birds and Gods. Interpreting the Staffordshire Hoard*, (West Midlands History Limited, Alcester).

Klemperer, D., Greaves. P., Fern, C., and Çamurcuoglu, D. 2013. 'Researching the Staffordshire Hoard', *British Archaeology* July/August 2013, 14-23.

*Meek, A. 2016. 'Ion beam analysis of glass inlays from the Staffordshire Anglo-Saxon Hoard', *Journal of Archaeological Science: Reports* 7, 324-9

Staffordshire Hoard Research Reports
The following are the reports published in advance of the main publication by the Archaeological Data Service, York in 2017 <https://doi.org/10.5284/1041576>

1 Deegan, A. 2013. *Air photo mapping and Interpretation for Contextualising Metal-Detected discoveries: Staffordshire Anglo-Saxon Hoard.*

2 Meek, A. 2012. *The PIXE and PIGE analysis of glass inlays from the Staffordshire Hoard.*

3 Cartwright, C.R. 2013. *Macro-organic materials from the Staffordshire Hoard*

4 La Niece, S. 2013. *The Scientific Analysis of Niello Inlays from the Staffordshire Hoard.*

5 Steele, V. and Hacke, M. 2013. *FTIR and GC-MS Analysis of Pastes and Soils from the Staffordshire Hoard.*

6 Blakelock, E.S. 2013. *Pilot Study of Surface Enrichment in a Selection of Gold Objects from the Staffordshire Hoard*.

7 Blakelock, E.S. 2014. *Analysis of a Multi-Component Garnet, Gold and Millefiori Object from the Staffordshire Hoard*.

8 Blakelock, E.S. 2014. *XRF Analysis of Silver Foils from the Staffordshire Hoard*.

9 Blakelock, E.S. 2014. *Phase 2 of the Analysis of Selected Items from the Staffordshire Hoard and of Contemporary Anglo-Saxon Objects from the British Museum and Stoke-on-Trent Potteries Museum and Art Gallery: a Study of Gold Compositions and Surface Enrichment.*

10 Blakelock, E.S. 2014. *Scientific Analysis of the Staffordshire Hoard Seax Set.*

11 Stacey, R. J. 2014. *FTIR, Raman and GC-MS Analysis of possible Organic Pastes and Associated Foils (K234 & 235) from the Staffordshire Hoard*.

12 Blakelock, E.S. 2014. *Analysis of the Staffordshire Hoard Great Cross (K655, K657, K658, and K659), Gem setting (K1314) and Inscribed Strip (K550).*

13 Cartwright, C. 2013. *Identification of Fibres of Textile Fragments found inside Silver Gilt Collar K281 from the Staffordshire Hoard.*

14 Meek, A. 2013. *XRF Analysis of Triangular Green inlay in Staffordshire Hoard Object K744.*

15 Meek, A. 2013. *XRF Analysis of Inlays in Staffordshire Hoard Object K301*.

16 Blakelock, E.S. 2014. *A Comparative Study XRF and SEM-EDX Analysis of Gold / Silver / Copper Alloys at the Birmingham Museum Trust and the British Museum Laboratories.*

17 Shearman, F., Camurcuoglu, D., Hockey, M. and McArthur, G. 2014. *Investigative Conservation of the Die-impressed Sheet from the Staffordshire Hoard*.

18 Blakelock, E.S. 2015. *Pilot XRF Study of the Silver Hilt-plates from the Staffordshire Hoard.*

19 Blakelock, E.S. 2015. *XRF Study of Silver Objects from the Staffordshire Hoard*.

20 Blakelock, E.S. 2015. T*he XRF Analysis of the Copper alloy objects and fragments in the Staffordshire Hoard*

21 Blakelock, E.S. 2016. *The Analysis and Documentation of Niello Objects in the Staffordshire Hoard.*

22 Blakelock, E.S. 2015. *Examination of Cross sections through a Selection of Gold Objects from the Staffordshire Hoard.*

23 Martinón-Torres, M. 2016. *Analysis of Weathered Green Inlays in the Staffordshire Hoard.*

24 Goodwin, J. 2016. *A Survey of the Sources for Possible Contemporary Activity in the Vicinity of the Hoard Find Spot*

Staffordshire Hoard Research Reports

Staffordshire Hoard Research Reports were produced by the project

Contextualising Metal-Detected Discoveries: Staffordshire Anglo-Saxon Hoard

Historic England Project 5892

The Staffordshire Hoard is owned by the Birmingham City Council and the Stoke-on-Trent City Council and cared for on their behalf by Birmingham Museums Trust and The Potteries Museum & Art Gallery.

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Historic England

Birmingham City Council

City of Stoke-on-Trent

Barbican RA

Birmingham Museums

The Potteries museum & art gallery