



Re-engineering the Archaeological Process a workshop held in Bury St Edmunds on 30 June 2004

Introduction (Keith Wade)

This is the second in a series of workshops run by ALGAO EE to explore the reshaping of the entire archaeological process from fieldwork through to publication — possibly slightly ambitious! Inevitably, the workshop will cover similar issues to last time (see transcript at www.eaareports.org.uk) but things can change a lot in six months and I am optimistic that discussions today will bring us nearer to identifying a collective way forward.

We are joined by Catherine Hardman of ADS and Sarah Cross of EH Centre for Archaeology who will tell us about OASIS and the Revelation Project, also Keith May of EH who can provide an update on the Digital Archive Standards. Unfortunately none of the regional archivists could join us since they're all at a conference in Norwich.

The programme begins with digital recording in the field, then looks at preservation of digital records and concludes with access to digital information; taking in action points from last time along the way.

A list of those attending the workshop is attached.

Digital recording in the field

EH Revelation project (Sarah Cross, Centre for Archaeology)

Revelation aims to provide a coherent digital information system that will make the capture, analysis and dissemination of EH research faster and more effective. The issue here is an information system, and work so far has concentrated on understanding the people and processes involved, in order to take advantage of new technology.

The main reason for developing a new system is that the current one has become very fragmented with adverse effects on communication within and between project teams. Although initially, EH Chief Archaeologist wanted a digital site recording system so that a coherent record would leave the field. Since data is not only created in the field, the system needs to incorporate post-excavation as well — in fact it needs to incorporate the whole process.

An 'information system' is an integrated model where procedures and practice/software and hardware all work together. Most archaeological information systems don't do this: software was developed to suit systems and practices that have since evolved and much better hardware is now available. The result is disintegration.

What has been done so far

Fifteen people have been conducting an assessment of the current system and a broad consultation for about twelve months. It is a substantial piece of work but if it is thorough and takes in the whole sector, everyone will benefit. It is about to be published as a CfA report. Briefly, it involves:

- a review of the existing systems (what/why/and how they operate)
- preliminary field practice trials (handheld digital drawing devices/data flow in the field)
- an assessment of user needs (info about current working practices)
- a sectoral practice assessment (what IT other organisations have)

The review of existing systems showed that because none of them is comprehensive or entirely compatible with the others they all have to be retained, leading to proliferation. To do anything else is very expensive.

Preliminary field practice trials revealed that digital drawing to an acceptable quality was possible, with the right device and someone who knew how to use it. The state of the issue in the sector was examined through visits to nine different units with substantial digital recording systems in use, and trawling the literature to establish the situation internationally. This revealed that nobody has developed the ideal solution yet. All of them are designed by archaeologists with an interest in IT rather than software developers, and they all fall short on reliability. It would therefore be better to take the requirements of archaeological recording to software developers and commission an information system.

The assessment of user needs revealed (amongst other things) that people were far more concerned about getting data than giving it out, so an open system that didn't rely on individual sharing would be better.

How to move forward

Some of the issues a new system will have to address include the following.

- most of us have hybrid systems — part paper, part digital — which are the worst sort. Data access and version control work differently in each medium, so all paper or all digital would be better.
- a system designed to integrate both field and post-exc operations, for instance by bringing digital archive into publications, blurs social distinctions between the two, and therefore runs up against social resistance as well as practical problems. Maybe overcoming this is a good thing.
- communication — a lot of the most important aspects of archaeology are discussed verbally and not necessarily recorded. People are very task-focused rather than considering the whole process when they are recording.
- a large amount of time on excavations and afterwards is devoted to tracking and cross-checking. If this could be tightened up or streamlined it would be very beneficial.
- it is hard to share paper so people aren't used to having free access to data. If the new system allows this people will still need time to get used to the idea.

Next phase

An integrated digital system will be developed not just for CfA but for the whole of EH Research and Standards, because it can be demonstrated that savings in the region of 20% will result over the lifetime of the project. This is partly a result of the size of the project and the size of investment initially required, on a scale beyond the reach of other archaeological organisations. A business case will be submitted this autumn to secure funds for the next stage of the project.

A review of sectoral user needs is currently in progress — how would the sector like this initiative to benefit them; is this information system something that they would like; would anyone like to work in partnership? These are issues open for discussion.

Discussion

(SBr) Will the user needs review include HE records and local authorities? We need to ensure compatibility of the data. (SC) Yes, we will want to review the needs of HE records and local authorities. If you get the data right at the beginning, it should flow more efficiently through the whole process.

(KW) Will EH-funded archaeology projects be expected to use the new system? (SC) This has not been decided. EH should probably encourage use rather than require it and assume that if it works, people will want to use it.

(RG) When can we view the results? (SC) They'll be available from next week. (RG) Will you be publishing details of the existing systems as well as the new integrated one? (SC) Yes. Nothing is currently published about the various systems in use in archaeology, and that makes it more difficult to compare and review them. (KM) For the integrated system, the emphasis will be on exchange of data rather than whizzy and exclusive technology. (SC) It should be possible for an organisation to adopt it and then develop it for specific needs.

(RG) How much training will be necessary? This is crucial since there's a cost attached. (SC) If you design a system well it requires less training but we have planned for substantial training.

(MA) Digital photography, which forms an essential part of the record, needs consideration. Will there be a transition from conventional to digital? (SC) The main issue identified was a time-saving one. The ability to create digital data about the photo in the field would avoid the need to index and inventory photos and plans afterwards. It

seems to be the large sites that deal effectively with post-excavation work while in the field. Smaller sites accumulate a backlog of tasks, hence the need for individual hand-held equipment, avoiding the extra staff.

(RH) Have there been weather trials for these hand-held systems? (SC)) We did trial pen-computers at Whitby in late October. But remember that other professions already have suitable equipment — geology, minerals engineering, construction.

(KG) Is the 20% saving in project costs predicted for the integrated system actually matched by an equivalent increase in spending on IT support, training and learning time in the field? (SC) No, it's mainly a saving in staff time because duplication of listing and tracking is avoided. Also a well-integrated system should have less support cost.

(MH) How does a supervisor or site director validate data quality when it is created digitally in the field? (SC) A well-designed system should facilitate this. Because the status of entries is known, the system incorporates checking and validation information from the start. Digital management and communication systems are already well-developed in the IT world. (MH) They need to be compatible with off-the-shelf software which, once acquired, will be in use for years.

(JN) In the contracting world, it's difficult to fund the take-up time for new technology, even if you can afford the training. In fact it's difficult to do anything new unless you're operating on a large scale. (RH) Oxford, Wessex and Frameworks Archaeology all work in Essex with digital recording systems but it's not the same system. The more integrated one (Frameworks) gives a much faster response time than the other two and it made monitoring easier because the data was available on site. Staff moving from project to project found it difficult to switch. While one unit should surely use one system, it doesn't necessarily deliver benefits on a small scale. (SC) An associated problem is that field teams never work in the office and post-exc teams never work on site, increasing the danger of fragmentation. The same information needs to be available to all and a central database is the key. Checking/rectification are best done on site, and interpretation needs doing on site.

(KW) Underlying all this is the issue of cost and competition. Having an integrated system may make the difference between winning a contract or not but the investment required is a huge risk. If we're pushing the cost back to contractors, this is where EH might come in. (RH) Even if EH develop an integrated system, it will still be expensive to acquire. BAA put an awful lot of money up front for the Heathrow project (Frameworks). (SC) If EH invests in an integrated system it is because of the volume of work on the books and because we can demonstrate a 20% saving. (SBr) The issue of cost and competitive tendering might be resolved by specifying digital records in the brief, ensuring a level playing field for tendering.

(KW) Apart from digi-recording, the issues go right through to publication. Someone may hand in a CD saying 'this is my site report' saving £10,000 publication costs. At each point in the process there is the issue of cost and competition and somehow we have to resolve it.

(HCR) We seem to be talking about two separate things: management systems and technology. Management systems already exist on site as part of the recording system. (SC) Yes, site recording systems have been through two major overhauls during which effective management systems were developed. The technology is needed to support them.

(CH) The 20% saving from on-site digital recording would be carried right through archiving and publication, in an integrated system.

(CE) It is difficult to codify the process of interpretation. Those concerned with process need to know where to draw the line or they are in danger of missing the larger picture. Until we establish a method of quantification appropriate to cross-comparison it's impossible to compare results from site to site or contractor to contractor. What you're after is a higher level of interpretation. (SBr) Should curators stipulate that these sorts of things need to be quantified? Perhaps it's tangential to digital recording. (CE/KM) It's entirely relevant and digital systems should encourage it by making quantification easier. (JP) It's what finds specialists have been demanding for years.

Preservation of digital records

EH digital archive standards (Keith May, EH)

EH views digital archives as a variety of repositories rather than one vast national repository. So EH is looking at projects that involve ADS, SMRs and Museums, and concentrating on development of systems at the recording level or the archaeological unit level, which is the basis of the Revelation approach.

Regarding EH standards: Archaeology Commissions projects will be asked to submit an OASIS-type record and also digital archives. The guidance for these will be based on ADS requirements as embodied in their *Guide to Good Practice* and this standard is likely to apply next financial year.

In order for OASIS to provide a successful index of archaeological fieldwork, it's important for ALGAO and curators to endorse the scheme and for contractors to take it up. EH is currently seeking feedback on how this can be encouraged.

Picking up on the earlier discussion, an integrated system is not simply a technological solution but an information exchange. This is seen in a project like OASIS which can output data in XML, the development of the FISH toolkit and, linked to Revelation, ontological modelling (Cdoc CRM). This involves modelling the archaeological processes at CfA in a higher level language that will allow the terminology and other aspects of existing systems to be incorporated into one integrated system without the need to impose something entirely different on top.

National and Regional Archives (Keith Wade, ALGAO EE)

A meeting with EEMLAC (East of England Museums Libraries and Archives Council) had showed that there was little progress to report since last November (see Workshop notes 20.11.03). Adrian Brown (National Archives) had sent his apologies and provided an update. He is working with EEMLAC and. A Working Group of the National Council of Archives has been established to address digital preservation in the regions and Kathy Perrin is a member. The group intends to produce generic models for a digital preservation service. These will include model requirements for establishing an in-house service and a contracted-out service. The intention is that these models can be adapted by any organisation with a digital preservation requirement. The group will also develop general guidance and other supporting materials.

Some initial work is also underway in developing standards for certifying digital repositories, which may ultimately lead to an International Standard. However, this is still at a very early stage.

EERAC (East of England Regional Archives Council) is also talking about a possible pilot project to develop a regional digital repository, so there may be scope to tie into that.

While they are clearly looking at regional solutions to the local government/record office digital archive it is difficult to envisage what. EEMLAC had circulated record offices with a questionnaire about digital preservation (not forwarded to Archaeological Services). One of the main questions was whether digital preservation would be attempted in-house or contracted out. There is still talk of a regional pilot project, and regional archivists would like to involve archaeology. It is up to us to decide, if we do get involved, what sort of ownership we want.

(BA) A regional project manager and resources are available and we should be involved. BA to contact the Norfolk County Archivist.

(MA) how will this relate to ADS? (KW) National, regional and local archives will be needed and they will be linked. (MA) Will I have to deposit multiple archives? (CH) The whole point of digital access is to avoid duplication of tasks and information storage but we need to develop the search mechanisms that will extract appropriate information. (KW) Huge amounts of information will be involved over the years so good structure and hierarchy will be important. Linked to this is something we discussed before — the status or quality of data, whether it has been independently checked or validated — which must be clear to the user at each level. This might be achieved through a regional portal. (CH) Interoperability is one of the most important factors in the construction of 'portals' — so that data can be cross-searched.

(KW) The worst problem at the moment is the grey literature where the quality is clearly variable. With online access to information we'll be quite exposed but increased resources to monitor quality will not be available. It may not be necessary to do this, so long as it's quite clear to the user what the quality is (*see 'grey literature', below*).

Access to digital information

ADS (Catherine Hardman)

ADS [<http://ads.ahds.ac.uk>] is primarily funded through higher education sources and has a remit to provide services accordingly, as reflected in the AHDS (Arts and Humanities Data Service) link. ADS is keen to provide a service for the whole of archaeology, not just the higher education end. The core business of ADS is digital preservation but it is also involved in producing Guides to Good Practice and developing access to digital information via the internet (see ADS leaflets).

There's more to digital archiving than file formats, in fact there's a raft of issues to be addressed. Information on (e.g.) the longevity of storage media, file formats, documentation, and planning for reuse can be found in *Digital Archives from Excavation and Fieldwork*, one of the ADS Guides to Good Practice. A range of topics is covered in these guides, and the guides are driven by demand from within the archaeological community.

The ADS catalogue encompasses lots of different things.

ArchSearch is a catalogue of SMR-type data, an index-level record which signposts various sources of data.

ARENA is a project fostering digital communication between North European institutions with a similar role, curating digital archaeological archives.

HEIRPORT, launched in 2002, is a heritage portal. The project was set up to explore ways of searching databases held by different providers through one portal, and how to produce different views of the same data, using the available technology. From one data set, similar questions can produce different views, tailored to the needs of each searcher.

CREE (Contextual Resource Evaluation Environment) is a project looking at institutional needs for portals, in this case proper portals which are not just providing lists but cross-searching through different databases located in geographically separate locations.

OASIS (Catherine Hardman)

OASIS [<http://ads.ahds.ac.uk/project/oasis>] will provide online access to the NMR index of archaeological excavations. It is a transfer system for digital information, not a cumulative database, and it is entirely separate from the ADS database. It involves the creation of one record per excavation which moves through the system, subject to modification and validation along the way. Eventually the record can be uploaded onto the relevant SMR and onto the NMR. OASIS has now been trialled, reviewed, improved and rolled out nationally. OASIS training days have been arranged across the country, and the information about these goes out to SMR officers. You can request additional sessions.

OASIS is intended to speed up the process of data transfer, avoiding the need for computer printouts and the situation where there is a backlog of data awaiting entry for the SMR and a backlog of SMR data at the NMR. A huge amount of data is effectively lost in the system this way at any one time across England, leading to a research gap. As well as speeding up the transfer, OASIS will allow information to be accessed by a range of users while it is in transit.

Guidelines for using OASIS are available (see booklet). At each point, there is a process of validation, until the final record becomes part of the NMR database which can be reached through (e.g.) ARCHSEARCH. Initial validation is undertaken by local government archaeological officers, who will usually have issued the brief for the project in the first place. Validation status appears online so that the progress of records can be tracked. Anyone creating or validating records will have a registered identity — contractors register themselves and ADS will issue SMRs with a username and password — to prevent the creation of bogus records. Acknowledgements and instructions are sent by email to contractors and records are forwarded to the relevant SMRs. The record forms are intended to be quick to complete: now taking 15–20 minutes on average.

An archive report (grey literature) can be submitted (one per record form, in HTML, RTF or PDF) and the filename of the grey literature will automatically incorporate the OASIS ID of the record. The grey literature is stored on the ADS database once the record goes through to the NMR. Appropriate copyright permissions are needed to release these reports electronically. With permission, the grey literature can be made available online through the NMR index. ADS are exploring the possibility of attaching a greater number of files to the record.

One of the benefits of OASIS is the way you can download records; its flexible download options. The entire record, or a range of records, can be downloaded in HTML or XML; or a choice of fields can be downloaded from the forty-eight fields on each record. This should encourage a broad range of people to use the same set of data.

Online index creation challenges the way we work. We need feedback — such as the results of the user needs survey being undertaken by the Revelation project, how contractors interact with the SMR and so on. We are the first generation of people to face these challenges, and a collaborative approach will benefit to us all.

Discussion

(RH) Can OASIS records be uploaded to the SMR without curator validation? (CH) The decision is yours. The system is quite flexible and you can decide at which point to validate the record (e.g. when it is complete) and at what stage it will be uploaded.

(JP) There is already an accumulating backlog of OASIS-related digital information awaiting validation. (SBr) Unvalidated material should probably be made available e.g. through the SMR. (JP) But this would probably not be practical. (JS) You could set up a designated email address to receive OASIS forms and correspondence.

(SBr) Does the attached report need to be validated at the same time as the OASIS record? Having a record that is validated but an attached report that is not might cause problems. (CH) OASIS would allow you to accept the record and reject the report, so the record could be uploaded without the report. (RH) Or presumably the SMR could stipulate that only digital records are to be submitted, reports must be sent as paper copy. (CH) Yes. If the SMR or the NMR is not happy, the entry will not be validated and it will roll back through the system to the contractor. So far, hardly any OASIS records have been sent back. During the pilot project over 400 records were submitted and only 3 records were modified in any way (incorrect grid references). Should an SMR wish to sign up to the project and require training for them selves and units in their area, ADS/NMR will be able to undertake training. One final funded training day is to take place in Cranfield University on 21 October.

(SBr) Curators need to insist that all contractors complete and submit OASIS records. (CH) ADS has organised OASIS training days around the country to promote use. Since April, 15–20 SMRs out of 100 have taken it up (with 4 more undecided) and there is a map on the web site which indicates participating SMRs.

Grey literature — a brief survey of hardened users (Jenny Glazebrook, EAA)

At the last workshop it was suggested that we should establish a baseline requirement for grey literature before making it available online, by contacting people who had used large amounts of it for research purposes. Richard Bradley, Frances Healy and Jess Tipper have each trawled through a fair amount of it and they kindly provided much useful information.

Richard Bradley is very enthusiastic about making it available online even if it is not of an even standard — it can always be improved later. The sheer amount of material makes it immensely useful and the main thing is to keep it up to date. He has some concerns about the longevity of digital information and thought there should also be a paper record. It took one person three years to trawl through the British and Irish SMRs for prehistoric material and they now have a roomful of photocopies but it is feasible to search the paper record. The main obstacle is lack of funding for the time required.

Grey literature needs to contain two crucial things to be useful: a thorough summary of the archaeological results and the nature/date of the evidence; and a plan of the archaeology. The main problem is the lack of specialist reports, especially radiocarbon dating and pottery analysis, and the danger of the report never being updated.

The Irish government in Dublin is intending to release online grey literature from licensed excavations over the last 70 years (pending funding) which might provide a useful precedent for ALGAO EE. The eastern region was well-placed to attempt this — with a reasonable standard of reports and a large amount of data.

Frances Healy said that her search would have been more productive and efficient if the material had been available online and well-indexed, and that grey literature should be put online through a national programme like OASIS. More often than not the literature did produce the necessary information but there was great variation in quality and content and this had caused her some problems.

Jess Tipper also wants to see grey literature available online because of the amount of work being done and the difficulty of obtaining information about it but he is more concerned about quality. He feels there should be more control over consistency and content. He did not understand why submission of digital reports was not yet mandatory and thought there should be effective indexing for reports released online to allow the identification (e.g.) of all sites with early Saxon pottery in Norfolk, or sites with middle Saxon metalwork in Cambridgeshire.

Discussion

(JG) Why was submission of grey literature through OASIS optional, not mandatory? (CH) The data is destined for SMRs so the decision to make digital submission mandatory rests with curators.

(JG) Even if it becomes mandatory for digital grey literature to be submitted from now on, this won't include the vast amount of it accumulated since 1991 which ought to be made available too. But the more grey literature there is online, the more important it will be to have an effective means of searching it. Most people want to conduct a local or regional search for information rather than a national one and ArchSearch isn't very effective at this. (CH) In addition to the grey literature you would need to create an OASIS-type record with some of the same key fields to allow this kind of search.

(SBr) The obvious place to start a local search is the SMR. Grey literature should be available here and not in isolation from the archaeological context. ALGAO is working with EH and the NMR to provide a gateway from local information (SMRs) to regional and national information, which would address the search issue.

(CE) Surely most of the backlog grey literature is still available in digital format? It would probably not be too costly to digitise the remainder. (SBr) We're probably talking 5–10,000 reports in the region. (SC) Could you use OASIS to release the backlog? (CH) It's feasible. We'd have to create a pro-forma for it. (KM) A record already exists on the SMR. (CH) But it would be quite a task to associate the grey literature with an existing record either in-house or via the NMR index.

(KW/SP) The SMR is clearly the place for it. (JG) But it still doesn't make it available. Even if we had a digital copy of a report from 1995 I'd have to actually visit the SMR in order to get it. (SBr) Maybe in five years it would be online. (JG) Whereas OASIS is available now.

(BR) Should I be creating my own links between backlog grey literature and the SMR or waiting for a national system of doing it? Most SMR enquiries require *all* the archaeological information for a particular area, including the historic landscape characterisation, aerial photos and the grey literature. Potentially this might involve directing the user to several different online resources, unless a network exists which incorporates all of them, and allows the user to work through to SMR data from national level and through to national databases from the SMR. High-level searches need to recognise SMR-level data. (JP) Linkage seems to be the difficulty, with all these projects exploring ways of looking at data — shouldn't we be able to do that already?

(BR) Another problem is that you need permission from the originators to release SMR information online, and different levels of permission apply for different historic environment databases. (CH) Permission is also required for the release of grey literature (see above). OASIS forms cover this for new submissions but it would be a problem where the backlog is concerned.

(CH) The average student doesn't know what the SMR is let alone the range of resources it holds. Those who go on to do research will use the internet as the first port of call rather than the library, and they are very unlikely to visit SMRs. The Society of Antiquaries of Scotland have digitised *all* their reportage for Scotland, right back to the eighteenth century. In the three months it's been online it's become one of the most-used resources.

(CE) Postgraduates consulting the CAU archive wanted the report (the grey literature) rather than the raw site data, which raises the question of how far you need to digitise the record. (SP) It's the SMR that signposts the grey literature and without that index how would you know what grey literature to look at? (CE) But it's interesting that they don't use it. (BR) It's very much at a monument/landscape level that people consult the SMR. If we decide, in this region, to concentrate on releasing the grey literature rather than concerning ourselves with feature-level data, that's at least a starting point. (KW) We'll need to store feature-level archives but whether you need to provide much access to that material is another matter. The demand will be at grey-literature level. (CE) The advantage to contractors producing more wholesome grey literature which is guaranteed to be online is that it frees up publication.

(MA) If we successfully disseminate grey literature, does that mean I don't have to write so many publications? (CE) Surely that depends on the results of your finds analysis. This should determine whether you simply update your grey literature or publish it. (MA) Even in the county journal, we've included a gazetteer of excavations. Can I just submit an index of my grey literature when it's online? (KW) We must be careful not to disenfranchise people who don't have online access. (SC) Isn't publication another validation issue? When you use grey literature, it's been accepted by the curators. When you publish something in EAA, it's academically vetted. So for professional reasons you might need different levels of validation for different types of work. As a discipline we have said that synthetic work requires a different type of validation than a site report. (KW) And it must be a hierarchy of validation that is 'commensurate with results'. All sites will be described in a report; some of them will be worked up into a publication if there is something more to say.

(MA) At the moment our publications reiterate the grey literature because the grey literature is inaccessible. It's the only way of drawing attention to the information. (CE) But normally your publication won't have all the detail, all the plans of your grey literature. (KW) There is a problem in that grey reports vary so much and we should define what we require. (SBr) Grey literature fulfills a planning condition but the published report has a different audience. There is a grey area between grey literature and published report in Essex. (SC) Quality means fit for purpose so it depends on the purpose. If the grey literature serves a planning purpose, then it has to have all the things that planners require, and you can't assume it will meet research needs unless you stipulate that it should. (BR) I have piles of borehole reports that are geotechnical, context-free, and don't inter-relate, and that's the way grey literature is going. If we lose site of the fact that this work is about understanding archaeology, it will soon become very limited. (KW) In many cases it's the only information you will ever have of that place. (BR) It must be clear that it's about archaeological research and conservation, there's no other reason for doing it. We need to be clear in setting

standards that we expect it to fulfill certain research criteria which are actively monitored. It's not to fulfill planning criteria.

(JG) Another argument is that if grey literature is accessible and easier to use, you can, in the limited time available, attempt more synthetic work.

(SB/SC) A good place to start would be to ask all the contractors in the region to provide a list of the grey literature they have in digital format, and details of the format. JG to chase information. ALGAO EE to establish how to pull grey literature into SMR. CCC AFU has already done this; reports are attached to GIS.

E.journals consortium (Jenny Glazebrook, EAA)

This is a CBA/Society of Antiquaries proposal for a consortium of archaeological publishers to offer electronic versions of their journals and monographs to paying subscribers. The extent to which this material could be searched online is unclear. Discussion at the moment revolves around whether subscriptions will be for access to the whole bundle, selected elements of the bundle, or per article/title.

Apparently these sort of arrangements prevale in other disciplines and it seems a good idea to offer a purely archaeological bundle. Electronic release through a consortium has other advantages: the consortium would sort out payment of subscriptions and sharing of sales revenue, and they would also resolve the copyright issues related to online release (and see OASIS above).

In theory, EAA could be released online as PDF through this consortium and we would receive some revenue through subscriptions. Would we reach a new, international market this way? Most of our readership, and that of the county journals, would probably still be local. If you release new titles electronically, would you continue to print them? Would you sell more printed copies as a result of being online or fewer? It might suit EAA best to release back numbers online but we don't have PDF files of these. We already have an arrangement with Heritage Marketing for out-of-print titles to be digitised and printed on demand.

It's a slightly circular argument. Current titles are designed for print, and given to the printers as PDF page layouts. These could be released online and people would probably print out material to read. Why not create an electronic book in the first place? If instead you're producing large amounts of text for people to read, perhaps it's better printed and bound as a book in the conventional manner.

The consortium is a good idea, and EAA is sure to become involved. I'm just uncertain as to how far or how fast.

(SBr) It sounds as though it might be more suitable for journals than monographs. (JP) The consortium results from the fact that libraries will cease to buy print and therefore it's important to incorporate journals in an electronic system so that they're still available through libraries. It's about increasing library subscriptions, especially foreign ones. (KW) Surely the sooner libraries accept publications online the better — only one library in Suffolk has a full run of EAA.

Action

ALGAO EE to contact LG Archivists about the pilot project asap.

EAA Ed Comm to seek EH support for Managing Editor to develop EAA digital capabilities.

Quantify the amount of 'backlog' grey literature available in digital format in the region.

Explore the possibility of storing backlog grey literature in an ADS 'library' (by contractor, charge to be decided) as an interim measure until a means of attaching digital versions to SMRs can be devised.

Define the baseline requirement for grey literature, for the region.

ALGAO EE to encourage curators to stipulate submission of digital grey literature (PDF) in addition to OASIS record.

References

Richards, J. and Robinson, D. (eds), 2000 *Digital Archives from Excavation and Fieldwork: A Guide to Good Practice* (Archaeology Data Service)

List of delegates

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