

## New Director for the Arts and Humanities Data Service

Ms SHEILA ANDERSON, FORMERLY THE HEAD of the History Data Service, has been appointed the new Director of the Arts and Humanities Data Service. She replaces Mr Neil Beagrie, who after much sterling work for the AHDS, is leaving to become head of the JISC's Digital Preservation Focus.

Said Ms Anderson: "This is an exciting and challenging period for the AHDS. In its initial phase of funding, the AHDS has helped to shape the evolving digital environment in Higher Education and the cultural and heritage sectors, and has sought to identify and fulfil the needs and requirements of the user communities covered by the service Providers. Over the next few years we expect to see an expansion in subject coverage, an increase in the demands for our services, and a growing range of opportunities to develop specialist services and products in collaborative partnership with other services, organisations and scholars. The AHDS intends to provide a valued service to the Arts and Humanities Research Board and to play a central role in the development of the JISC's DNER initiative."

She continued: "I am very much looking forward to working with my colleagues in the AHDS Executive and Service Providers who will, I know from experience, respond to these opportunities and challenges with drive, flair, imagination, practical application and hard work. The AHDS is a vibrant and exciting service with a great future and I feel very privileged to have the opportunity to contribute to that future as Director."

### *In this Issue of the Newsletter*

AS DEBBIE KENT of the Visual Arts Data Service points out in her article, users often lack the time to negotiate and fully exploit digital resources. Comprehending the nature of a dataset, and then incorporating it into teaching or research can be a lengthy task. The same can be true of data creation, which often requires repeated specialist intervention to manage and update data deposited on the Internet, thereby slowing down the process of creating a completed dataset. The AHDS, however, is well placed to deal with these obstacles, and this issue of the newsletter reflects this by focusing on the growing number of sophisticated methods in which data held by the AHDS can be both organised by creators and presented to users.

Each of the Service Providers have contributed an article on this theme, whether it be the PADS' remote data management system, the ADS and HDS tools for searching geographic data, the VADS project for applying their data to online teaching, or the OTA supplying data in the flexible Extensible Markup Language Format.

On a different tack, the newsletter also previews the AHDS' Study in Digital Preservation Management, due for publication in autumn this year, which looks at the various issues surrounding the safekeeping of digital resources.

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Michael Gambon in a 1983 Royal Shakespeare Company production of *King Lear*. The photograph is part of the PADS *King Lear* photograph collection. For more, see page 2.

(Photograph copyright Donald Cooper / Photostage)

## Flexible Data Management at the Performing Arts Data Service

THE PADS HAS been working with a wide variety of institutions and individuals during the past twelve months to realise online access for key research data collections. As we cover five distinct subject disciplines and our data specialisms include time-based media resources such as audio and moving images, the PADS is all too aware of the differing needs of disparate user groups and the challenges inherent in mounting complex data types over the network.

We are therefore committed to offering flexible data management tools to our depositors in order to provide the best possible solutions for mounting, documenting and maintaining data collections. There are various collection types currently held at the PADS <<http://www.pads.ahds.ac.uk>>. This includes databases, for example the recently-launched *Scottish Film and Television Archive*, which catalogues the documentaries, promotional films, newsreels and other resources held in the archive. Other collections on the PADS server are arranged as integrated multimedia resources, such as the *National Review of Live Art Archive Multimedia Database*, which integrates photographs and detailed textual descriptions of performers and performances from successive events at the National Review of Live Art. In addition, discrete digital object collections, for example the *Five Centuries of Scottish Music Collection*, comprise individual digital objects such as extracts of recordings and digital images of scores and concert programmes. Such complexities offer the PADS the opportunity to innovate and two related projects creating multimedia resources on Shakespearian performance in the twentieth century illustrate the flexibility of the PADS' approach.

The PADS already holds a collection of photographic material documenting performances of *King Lear* by the Royal Shakespeare Company from 1976-1993 <<http://www.pads.ahds.ac.uk/padsKingLearPhotographs>>. These photographs were released for educational use by Dr Christie Carson (University of London Royal Holloway College) as part of her work on *The Cambridge King Lear CD-ROM: Text and Performance History Archive* and were supplied to the PADS as discrete digital objects with supporting documentation for

mounting by the PADS staff.

Dr Carson has recently been awarded funding through the AHRB Research Grant Scheme to create a further multimedia resource detailing the staging of Shakespeare performances throughout the 20th century. This new resource will include approximately 600 photographs, scanned as JPEG files in collaboration with theatre photographer, Donald Cooper; oral history transcripts in textual form; recorded versions available as both MPEG1 (Moving Picture Experts Group) and RealAudio files and three-dimensional VRML (Virtual Reality Modelling Language) reconstructions of theatre designs. The Archive will be hosted at the PADS and form the background for a monograph and supporting CD-ROM to be co-authored by Dr Carson and Chris Dyer, her colleague at Royal Holloway.

As the PADS will be the principal public repository of the data, the standard deposit procedure of supplying pre-formed files for insertion into the Hyperwave system by PADS staff will not be appropriate. Instead, two research assistants based at Royal Holloway will use Hyperwave's web-based data entry facility to create the archive remotely. Multimedia objects such as sound files or scanned images will be inserted directly into the PADS servers in Glasgow, together with accompanying Dublin Core metadata, using a pre-designed input screen accessible over the web. The PADS will create a password-protected area within the system to protect the work-in-progress and this area will be accessible to PADS staff for monitoring purposes. As Dr Carson will be based in Canada during the early stages of the project, this also provides her with the opportunity for remote monitoring of the data input progress through the same web-accessible area.

Depositors can create, update and reorder their data on the PADS server without having to rely on the expertise of PADS staff.

It is the hope of the PADS that more and more depositors will wish to take advantage of this remote collection-management facility to create, update and reorder their data without significant intervention from the PADS staff.

As data owners are increasingly concerned with control of their valuable digital resources, this type of management system will enable deposit organisations to re-assure depositors of their continued input into collections - perhaps a crucial bargaining tool in the fight to ensure long-term access and preservation through national services.

*Catherine Owen, Performing Arts Data Service*

## Unlocking the potential of geo-referenced data: map-based searching from the ADS

AS WELL AS its role within archaeology, the Archaeology Data Service has the task of encouraging the use and description of spatial data across the AHDS as a whole. This concern with spatial data, with maps, Geographical Information Systems (GIS), satellite images and the like, is a constant feature of archaeological research. Arguments about spaces, places and landscapes are a vibrant subject of archaeological research, and most undergraduate degrees in the discipline include an element of surveying or cartography. All the holdings in the ADS' catalogue have a geospatial reference associated with them, because they all pertain to discrete excavations or known monuments that are fixed in space. Not surprisingly, therefore, the ADS has had a long-term commitment to mapping tools, and has been working on a map-based interface to its holdings.

At the end of June, the ADS launched a new catalogue search option which significantly enhances the flexibility of its data and which provides the foundations for some rapid developments towards sophisticated but intuitive web-GIS. Users of ArchSearch can now define geographical areas with pre-defined map referencing schemes such as the two national grids from Ordnance Survey (OS) and Ordnance Survey Ireland (OSI). Map references for the southwest and northeast corners of an area of interest are entered in a simple form, making it possible to examine the wider context of a site of interest or to look at spatial distributions within specified areas.

The national grids use letter and number codes to represent 100 kilometre blocks or tiles across a grid, and specific points within these tiles. Thus a simple grid reference for the King's Manor in York where the ADS is based is SE6052 : tile "SE", "60" east and "52" north. This reference is accurate to about 1km. A more precise, eight figure reference, SE 6002 5222 is accurate to 10 metres.

In the new search option, grid references for the southwest and northeast corners of a box are used to define a search area in the catalogue. For example, if you wanted to know more about the archaeology in the immediate

area around the King's Manor you could decrease the figure (to get 100 metre accuracy) in both the easting and northing by 10 to define the southwest corner of a search area and similarly increase them by 10 from the northeast corner to give SE 5992 5212 and SE 6012 5232. These map references return 19 records, mostly concerning St Mary's Abbey of which King's Manor was once a part.



*The King's Manor at York, home to the ADS and point of archaeological interest*

Of course, archaeological sites are not evenly spread across the country. In urban areas intensive development means that archaeological remains are uncovered much more frequently. A search covering a city like London or York would return thousands of hits but if the search is thought out more carefully it is possible to 'zoom in' to areas of interest in busy landscapes, or 'zoom out' from quiet ones.

Using this search tool, we can find all the archaeological excavations or monuments close to the different service providers in the AHDS. So, we can identify the Museum of London's excavations at Lower Marsh Street in London, a stone's throw from the Executive's offices in York Road, the watching brief undertaken at the harbour house on Hythe Quay in Colchester near the History Data Service, the National Monuments Records notes on the buildings round Glasgow University, home to the Performing Arts Data Service; the medieval kiln at Borelli Yard in Farnham near the Visual Arts Data Service and excavations in St Giles Church in Oxford, near the Oxford Text Archive.

This might not tell us much about the archaeology of the areas in question, but it makes the point. A more useful example would be to locate all the archaeological sites within a two kilometre box round the hillfort at Dunadd in Argyll (NR

836 935). The results show that the fort is surrounded by standing stones, a neolithic "cur-sus", monumental burials and other less prominent hillforts. Instead of simply telling us about Dunadd, it shows that it is part of an ancient, ritual landscape occupied from the mesolithic era.

This search tool is the most recent step in the ongoing development of geospatial tools. More will follow. In the next few months, the ADS will develop a "point and click" map search that will not depend on users supplying grid references. In addition, continued collaboration between the ADS, the HDS and other data services like EDINA, MIMAS and the Data Archive and others will allow us to develop new and flexible tools, unlocking the potential of the ADS's geo-referenced data.

*William Kilbride,  
Archaeology Data Service*

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## The HDS: Pointing the Way to Geographical Data Resources

THIS ARTICLE looks at HDS plans to extend the repertoire of tools related to geographical searching (an example of which is outlined in the above article). It focuses on two JISC-funded projects that are assessing the feasibility of providing a gazetteer service and a geo-spatial portal, and which are being conducted jointly by EDINA and the History Data Service, with MIMAS and the Archaeology Data Service, between July 2000 and March 2001.

The Geo-Crosswalk Project is investigating the possibility of developing and providing an online, Z39.50 compliant, fast, scalable and extensible British and Irish gazetteer service, which would play a crucial role supporting geographic searching in the Distributed National Electronic Resource (DNER) <[http://www.jisc.ac.uk/pub99/dner\\_desc.html](http://www.jisc.ac.uk/pub99/dner_desc.html)>.

Geographic searching is an important information retrieval tool within the arts and humanities and beyond. Many data resources pertain to specific geographic areas and are either explicitly or implicitly geo-referenced. As William Kilbride illustrated in the previous article, geography is frequently used as a search parameter, and there is an increasing demand from users, data providers, archives, libraries, and museums within the arts and humanities and beyond for more powerful geographic searching.

A gazetteer service would assist metadata creators by providing a means of converting geographic names to a standard spatial coding scheme. It would parse metadata records to identify geographic names (current and historical), and convert them into geographic 'footprints' expressed in a standard spatial coding scheme such as latitude and longitude or the Ordnance Survey National Grid - thus making them fully interoperable with the ADS' ArchSearch tool. A gazetteer service would also make it possible for information retrieval systems to support a full range of geographic search options. It would provide a mechanism by which information retrieval systems could translate the spatial part of any query into the native spatial coding scheme.

Geographic names could be converted into geographical 'footprints' expressed in spatial coding schemes such as the Ordnance Survey National Grid

The main tasks to be carried out by the Geo-Crosswalk Project are:

1. Identification of user requirements.
2. Identification of suitable data sources for populating a British and Irish gazetteer.
3. Investigation of appropriate data models for storing and accessing the gazetteer.
4. Assessment of the relevant protocols to support remote access.
5. Production of a functional specification and implementation plan for a gazetteer service.

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The Geo-Data Browser Project is exploring the feasibility of establishing a Z39.50 compliant geo-spatial portal for UK higher education as part of the Distributed National Electronic Resource. Geo-spatial data is a term used to cover any data with a geo-spatial reference - for example, an Ordnance Survey National Grid reference, postal address, place name or administrative area. It has been estimated that as much as 80% of the information collected in Britain today has a geo-spatial reference. Two major barriers confront the potential user of geo-spatial data resources: first, how to find out what geo-spatial data resources exist given their high scale, diversity and complexity; second, having located them, how to ascertain their quality and suitability for use. The solution to overcoming these barriers, which is being investigated by this project, is to provide com-

prehensive, standardised metadata, available through a geo-spatial portal for UK higher education.



A screenshot from the new NGDF gateway  
*askGiraffe*

A geo-spatial portal would provide researchers and teaching staff with a way of identifying what geo-spatial exists within UK higher education, and it would form part of the new National Geo-spatial Data Framework (NGDF) gateway askGiraffe <http://www.askGiraffe.org.uk/>. It would also bring the ever-increasing number of geo-spatial data resources to the attention of the research, teaching and learning communities and help to provide new opportunities for both research and teaching, using geo-spatial data resources.

The main tasks to be carried out by the Geo-Data Browser Project are:

1. Identification of user requirements.
2. Review of existing metadata guidelines, including the NDGF metadata guidelines, with regard to the needs of the academic community, in particular the level of detail required.
3. Investigation of the suitability of the controlled vocabularies being proposed by the NGDF and identification of alternatives and/or alternative mechanisms.
4. Identification of suitable geo-spatial data resources and assessment of what metadata exists, including how it fits into the NDGF metadata guidelines.
5. Production of an architecture, functional specification and implementation plan for a geo-data browser.

*Cressida Chapell,  
History Data Service*

## Creating & Finding Resources: New Content at the AHDS

TWO PROJECTS being carried out by staff at the Arts and Humanities Data Service are now coming to fruition. The Resource Guide for the Arts and Humanities is a comprehensive inventory of the many JISC services and projects relevant to those working in the arts and humanities. Covering several types of resource (e.g., subject gateways or online publications), the guide gives a concise description of each, as well as the information needed to access the resource. The resource guide is available on the web at <http://www.jisc.ac.uk/subject/arts-hum>. Alternatively, printed copies can be ordered via its editor, Liz Lewis, at [resguide@ahds.ac.uk](mailto:resguide@ahds.ac.uk).

AHDS Case Studies are now available on the Internet at <http://ahds.ac.uk/casestudies/casestudies.html>. These case studies are designed to demonstrate the obstacles and advantages in going digital, from the original conversion of primary sources into digital form to using electronic resources in the seminar room. Topics covered include database creation, how best to provide access, the need for preservation standards and how to gain funding, and all subject areas in the arts and humanities are being covered. For more information, visit the website or contact [alastair.dunning@ahds.ac.uk](mailto:alastair.dunning@ahds.ac.uk).

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## PICTIVA: A New Focus on VADS' Collections

IN THE PAST the emphasis for the Visual Arts Data Service has been building on its collections. Now that VADS is in the process of accessioning and mounting a considerable number of collections, (including the recently-mounted London College of Fashion College Archive, poster images from the Victoria & Albert Museum Going Graphic Exhibition, 3 POSSE (Preserve our Student Shows for Eternity) Degree Shows and Southampton Institute's Millais Gallery Archive) there has been increased significance placed on user needs and the accessibility of the VADS datasets. Such concerns include the ease of use of the collections, the need for strong content and training on how to best use the collections.

VADS are undergoing a two-year plan to make improvements that will reflect these concerns. This was initiated in December 1999 with the implementation of the new website, which has

a considerably improved navigability. As part of the World Wide Web Consortium's Accessibility Initiative, several features have been added to improve access for those using limited or text-only browsers, supplying documents in rich text format, for instance, and supplying textual as well as image-based navigation. Planned systems developments will also affect the use of the VADS catalogue, for instance allowing users to execute searches at an item or collection level and making the collections cross-searchable.



*A Sample from the VADS' London College of Fashion Collection, taken from the Kaleidoscope Fashion Show of 1970*

In the longer term, the PICTIVA (Promoting the use of online Image Collections in learning and Teaching In the Visual Arts) project, the birth of which was announced in the previous newsletter, will add to the sophistication of the VADS interface and will also oversee the creation of generic tools to improve the accessibility of the collections. For example, at present users can search the VADS collections via the textual descriptions accompanying each image. PICTIVA will be exploring the possibility of contents-based image retrieval, where users browse and search for images not via defined keywords but through, for instance, the actual colour, shape and texture of the image. Other tools being developed under the PICTIVA umbrella include an on-line tutorial on how to search and utilise the VADS collections, and a tool to allow users to establish a selection of images that can be displayed side-by-side online before being downloaded for study purposes.

PICTIVA also aims to add specific enhancements to the collections in order to promote their use, in both the HE and FE communities, for learning, teaching and research. Twenty-two learning and teaching materials will be developed, revolving around the VADS collections. It is suggested that these should include: on-line tutorials, a series of assignments, a lecture series and an exemplary teaching 'shell' that can be customised to allow images from the VADS collections to be incorporated and then used by lecturers in their own teaching situations. The creation of these materials will be sub-contracted to academics with the relevant expertise in the collections provided by VADS, and will take into consideration the needs of learners and teachers as well as the differing needs between art practitioners and art historians. For more information about the PICTIVA project visit <http://vads.ahds.ac.uk/pictiva/index.html> or contact the PICTIVA co-ordinator, Debbie Kent at [debbie@vads.ahds.ac.uk](mailto:debbie@vads.ahds.ac.uk).

PICTIVA will oversee the creation of generic tools to improve accessibility to the collections.

The VADS user survey in 1998 indicated that a primary barrier to the use of digital collections was lack of time to engage with new resources on offer. By developing user services, and promoting ease of use of the collections, VADS aims to create a resource that can be integrated into core curriculum studies, and welcomes the challenges and opportunities that will arise from the ensuing dialogue with the VADS content creators and users.

*Debbie Kent, Visual Arts Data Service*

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## The XML Files: A Flexible Format from the OTA

IN KEEPING with the latest developments in web-based technologies, the OTA is in the process of implementing systems to deliver a selection of our holdings in XML (the Extensible Markup Language, for more information on which see <http://www.w3.org/XML/>), which is developed and maintained by the World Wide Web Consortium (W3C). This short article explains why the OTA has taken this decision, and the likely benefits for end-users of our holdings.

The OTA holds data in a variety of formats, but we

strongly advise the creators of new digital resources to follow the Text Encoding Initiative's Guidelines for Text Encoding and Interchange (see <http://www.hcu.ox.ac.uk/TEI/Guidelines>) when creating their material. The Guidelines advocate the use of SGML (the Standard Generalized Markup Language), as an open standard suitable for the development of complex data resources which need to be independent of particular software and hardware environments, and thus remaining viable in the long-term. The recent explosion of interest in XML has only served to demonstrate the merits of this approach.

Within the OTA's collection are several hundred texts that have been prepared in accordance with the TEI's Guidelines. In the same way that hitherto we have been able to deliver these resources to end-users in a variety of formats (e.g. HTML, RTF, ASCII etc.), we are now able to supply the data as XML files - which will have a number of advantages. Most of the current delivery formats on offer require the replacement of descriptive TEI markup, either with nothing (in the case of plain ASCII), a limited presentational markup scheme (e.g. HTML), or the codes of a formatting based language (e.g. RTF). Although it is also possible for users to download the source TEI/SGML data files, without the benefit of SGML-aware software for browsing or manipulating such files, it is difficult for them to take full advantage of the descriptive and semantic markup that the files contain.

XML is a subset of SGML, intended to offer a powerful and flexible language for the delivery of complex data over the web. It is the basis for a family of XML-based standards which, although co-ordinated by the W3C, have been widely adopted by the software development industry. The forthcoming releases of most major web browsers promise to offer support for XML, and many readers may already be using XML-aware software (such as Internet Explorer 5) without realising it. However, it is important to recognise that work on the suite of

XML-related standards is still on-going, and it may be a few years yet before XML fulfils its promise.

The two screenshots show the same TEI/SGML text (Charles Dickens' *A Christmas Carol*) converted to XML: the lower shot reveals the raw TEI/XML encoding, whilst the other shows the results of applying a stylesheet to the XML markup to give a



Two versions of *A Christmas Carol*, one in raw, the other in formatted XML

formatted online display. Users primarily interested in reading the text, or perhaps viewing the original illustrations which accompanied the first edition, will want to access the formatted view. By contrast, those who wish to exploit the TEI markup in order to analyse the text, or perhaps highlight certain aspects by applying their own stylesheet (e.g. colouring all instances of direct speech), will be able to use the same TEI/XML source file without having to download the data in a variety of formats, as at present (i.e. HTML or RTF for a formatted view, TEI/SGML or plain ASCII for analysis or manipulation). As the availability and sophistication of XML software improves over the next few years, it will become even easier for users to view and

manipulate TEI/XML data in whatever fashion is most appropriate to their research and teaching needs, moving seamlessly between different representations of the data as necessary.

By the end of the year, we would like all our TEI/SGML texts to be available for download as XML data. In the meantime, we shall be continuing to encourage the creators of new resources to follow the recommendations of the TEI Guidelines and those set out in our own *Creating and Documenting Electronic Texts: A Guide to Good Practice* (<http://ota.ahds.ac.uk/documents/creating/>), as well as seeking funding for the conversion of those items amongst our existing holdings which are not yet in TEI/SGML. If readers would like to recommend particular items for conversion (e.g. in anticipation of their own teaching or research requirements), then such suggestions would be most welcome. *Michael Popham, Oxford Text Archive*

## The AHDS and Digital Preservation

BETWEEN JULY 1999 and September 2000, the AHDS is working on a *Study on Digital Preservation Management*, funded by the Library and Information Commission (now known as Re:source) as part of its Preservation of and Access to the Recorded Heritage programme.

Digital preservation has emerged as a major issue in recent years, as the existence of various projects, articles, workshops, conferences and other activities attest. A U.S. task force published a major report in 1996 highlighting the many and varied issues under question and recommending further work needing to be done. (For the report see <<http://www.rlg.ac.uk/ArchTF/>>) In the U.K., a digital preservation workshop held at the University of Warwick led to the production of seven studies, commissioned by the JISC and the NPO (National Preservation Office), on various aspects of digital preservation. (For a summary of the workshop see <<http://www.ukoln.ac.uk/services/papers/bl/rdr6238>>, for the seven papers see <<http://ukoln.ac.uk/services/elib/papers/supporting/>>). Phase Three of the eLib Programme has included digital preservation on its agenda and has funded the Cedars Project to conduct practical research and to provide guidance in this area. (See <<http://leeds.ac.uk/cedars/>>). The AHDS itself has played a key role in raising awareness of digital preservation and encouraging good practice, through its *Guides to Good Practice* series and other publications, and through training and other outreach activities. The overall picture is of a huge amount of work being done on this subject around the world.

So why, you may ask, with all this activity going on, do we need yet another study into digital preservation? The answer is straightforward. There is a rapidly increasing corpus of digital materials produced either as a result of digital conversion projects, or created digitally ("born

digital") and simply not existing in any other form. This, along with added funding promising many more digital resources in the future, means that we have both increasing investment in and reliance on a wide variety of digital resources and, by implication, a fairly urgent need for guidance in the manifold aspects of creating, acquiring and preserving digital resources. At the same time, there is now a significant body of experience emerging from research projects into digital preservation from established data archives in the sciences and social sciences. Also, many libraries and archives have moved beyond theorising about preservation and are rapidly gaining solid practical experience in what it means to manage digital resources. The AHDS study is synthesising these experiences by collating major sources of practical advice in one place, and allowing for the immediate comparison of various techniques involved in digital preservation. In addition, the AHDS study provides a range of other helpful resources such as checklists and a decision tree, thus providing assistance to all individuals and institutions engaged in creating and/or acquiring digital resources.

Because the major focus on this study is on what can be done now to increase the prospects for digital preservation, it was decided that the main deliverable should be a workbook. The intention is for the workbook to provide a focus for the issues needing to be addressed, and a mechanism for working through them to find the course of action most suited to a particular preservation requirement. The draft workbook is currently undergoing peer review and the final draft will be available from September at the AHDS website at <<http://ahds.ac.uk/manage/licstudy.html>>. Feedback on the workbook will be very welcome and should be addressed to the authors, Neil Beagrie <[Nbeagrie@aol.com](mailto:Nbeagrie@aol.com)> or Maggie Jones <[maggie.jones@talk21.com](mailto:maggie.jones@talk21.com)>.

*Maggie Jones,  
AHDS Executive*

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This edition of the AHDS Newsletter has been edited by Alastair Dunning, Philip Pothen and Liz Lewis. If you have any comments or would like to see any particular topics featured in the newsletter please send an email to <[alastair.dunning@ahds.ac.uk](mailto:alastair.dunning@ahds.ac.uk)>

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