

Assessing the Visual Representation of Data in Archaeology: Project Design  
Applicants: 3'S Company (Consultancy) Limited and University of Southampton  
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# Assessing the Visual Representation of Data in Archaeology

Project Name: Visualisation in Archaeology (VIA)  
Project Design: 5172 resubmitted October 2007

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## 1 Background

Traditionally, archaeological illustration has provided a two-dimensional form of data recording within the archaeological process. Whether contributing at the primary/secondary level of a project's archive, or as the visual representation of data at publication, the language of archaeological illustration has persisted in a broadly recognisable form since the nineteenth century.

How the past is 'thought' within the archaeological profession has been widely studied and documented, providing a critical analysis of the development of archaeological theory and the resulting shifts of intellectual engagement between archaeologists and material culture. Whilst fundamental paradigm shifts have been described and acknowledged within archaeology, the practice of visually representing archaeological data continues as a familiar and comfortable enterprise.

Recent visual studies within archaeology have focused on the history of pictorial reconstructions of ancient life (Moser, 1998) challenging familiar assumptions about our understanding of humans in the deep past. Attention has also been turned to other themes concerning imagery in archaeology (Molyneaux, 1997; Smiles & Moser, 2005) marking a burgeoning concern with the relationship between visual representations and our perceptions and expectations of the past.

In contrast, representation within science is a topic that has generated a considerable body of literature since the mid-1970s, ranging from Rudwick's (1976) seminal work on the emergence of a visual language in geology to an expansive area of study investigating visual representations as 'scientific' resources (Lynch & Woolgar, 1990; Baigrie, 1996). Within science, the epistemological nature of scientific illustration has shifted from being taken-for-granted and unproblematic to a fruitful area of study from which numerous critical issues have been identified.

An understanding of visual representation cannot be considered in isolation of the medium in which images combine with text to both facilitate research and to disseminate knowledge. Traditionally, that medium has been the printed page. Today, the digital revolution presents archaeology with the opportunity of increased integration and interrogation of data by combining description, interpretation and synthesis in a number of multimedia formats. As has recently been identified (Jones *et al*, 2003), the point has been reached at which 'publication' and 'dissemination' must be seen as different things. Whilst Jones *et al* (2003) principally assess the orthodox model of publication in terms of its utility as a means of disseminating knowledge to various constituencies, the report's recommendations for future publication strategies are exclusively textually grounded:

- 'we therefore emphasise the need to encourage multiple authorship by specialists and directors' (pg 28)

- 'reports will only improve in content, structure and articulation if the editorial aspects of their production are considered much earlier . . . transl(ing) into better-written, better-focussed publications' (pg 29)
- 'some university teaching about the writing of excavation reports . . . would pay dividends' (pg 29)

It is notable that no acknowledgement is here reserved for the visual communication of knowledge.

## 2 Aims and Objectives

Over a period of three years, this project will significantly contribute to the foundation of a theory and practice of archaeological illustration relating to the visualisation of archaeological data defined, for the purposes of this project, as that diverse range of illustrative media employed by archaeologists in order to disseminate and communicate the results of archaeological investigations (eg. section drawings, artefact illustration, schematic diagrams, photography, traditional and VR reconstructions, etc) The project will support and promote horizon scanning. The principal aims of the project are:

### *Aims: Theory*

Aim 1 – produce an historical overview of archaeological illustration;

Aim 2 -- explore the relationships between archaeological illustration and the construction of knowledge;

Aim 3 -- adopt an international, multi-disciplinary approach to the project (addressing section 16.8 of the EoP98 implementation plan);

### *Aims: Practice*

Aim 4 -- assess the future role of archaeological illustration in light of developing digital technologies (addressing sections 16.1, 16.4, 17.6 and 17.15 of the EoP98 implementation plan);

Aim 5 -- disseminate the periodic results of the project's research and show-case examples of best practice (directly addressing section 16.12 of the EoP98 implementation plan).

Within the aims outlined above, the project's objectives are:

### *Objectives: Theory*

These research objectives are designed in order to delineate practical guidelines and inform professional standards through a broad understanding of the historic development and deployment of archaeological illustration. Although both project managers will ultimately be responsible for the delivery of all

research material, the focus and content of that research will be informed by members of the steering committee and the Strategic Report editorial committee (see below).

Objective 1 – It is proposed that this project substantially contribute towards the construction of an intellectual framework for the visualisation of archaeological data based on a programme of applied research. An online academic resource will be developed over the project's operational period, building a one-stop, interdisciplinary bibliography and summary of current research related to the visualisation of data.

Objective 2 – to promote conceptual reflection within archaeology and to encourage dialogue between disciplines through a targeted programme of research and an international conference that will provide a robust and substantial body of literature relating to the visual representation of archaeological data and its relationship to knowledge creation.

#### *Objectives: Practice*

These objectives are designed to effectively produce a meaningful, practical dimension to the results of the project's applied research thereby promoting a direct and tangible link between the professional and academic constituencies within archaeology.

Objective 3 – the production of a strategic report, designed to specifically identify the historic and future role of archaeological illustration within the publication and dissemination process. The strategic report will compliment Jones *et al* (2003) providing an integrated (re)evaluation of publication and dissemination in terms of both textual and visual content.

Objective 4 – to increase the knowledge base of English Heritage by promoting departmental and cross-departmental dialogue, strategic thinking and policy-making in the areas of:

- alternative models of publication;
- implications of developing technologies on dissemination;
- development of future professional and academic (re)training programmes.

Objective 5 – dissemination of the project's findings in the form of summaries, reports, forward planning documents and recommendations in hard copy form and via the project's web site. Also, the periodic attendance at seminars and conferences by the project's principles to present thematic results of the project's work.

Overall, this project will provide an evolving reference for project managers, academics, illustrators, surveyors, publishers and students active in the archaeological sector. It will also attract those engaged in the areas of Science and Technology Studies, History and Philosophy of Science, Art History, and Cultural Studies.

### **3 Methods Statement**

This project will represent a collaborative undertaking between the two principal partners -- 3's Company (Consultancy) Limited and the School of Archaeology, University of Southampton. 3's Company (Consultancy) Limited specialises in archaeological illustration, publication (traditional and digital), information graphics and contributors to an MA programme of study in archaeological illustration (Garry Gibbons and Rob Read). The School of Archaeology at Southampton is a recognised centre of excellence, specialising in distinctive research areas, notably, visual representation in archaeology (Professor Stephanie Moser) and virtual reality. The possibility of the University of Oxford funding two doctoral students to work with the project is being explored by Professor Steve Woolgar.

#### *Steering Committee*

The steering committee will be at the operational centre of the project, contributing towards Aims 3-5, and Objectives 2-5.

It is proposed that the steering committee will comprise a group of key personnel numbering three full-time members (GG, SM & TP) who will meet regularly and invite specialists to further contribute to the steering committee's effective operation. GG and SM will hold direct responsibility for the management and commissioning of research, the content and progress of the project's core activities, and the systematic delivery of output whilst seeking advice from and providing progress reports to the steering committee. Members of the steering committee will directly contribute to the project's operational duties --

- to oversee and further develop the ongoing definition of the project in line with its aims and objectives;
- to focus knowledge from various specialist fields and feed it back into the project;
- identify and show-case examples of best practice concerned with innovative approaches to publication and dissemination;
- establish a central bibliographic resource and a summary of current research in visual representation from within archaeology and the wider field of the history and sociology of science;
- to manage information-flow and ensure its effective dissemination;
- to ensure the transfer of relevant information to English Heritage in a structured manner;
- establish a project archive strategy in line with ADS recommendations.

### *Workshops*

The workshops will provide an intellectual hub to the project, making substantial contributions to Aims 1-4 and Objectives 1-5.

A series of three weekend brainstorming workshops will be organised across the project's period of operation and will serve as the principal forum for cross-discipline research, debate and analysis. It is intended that a group of c.18 selected specialists will be invited for each workshop.

*Day One* -- the specialists will be divided between four one day sessions, each session concentrating on a specific theme. Chairs for each session will be drawn from four principals -- SJ, SM, SS, and SW.

Theme 1	<i>where is archaeological illustration today?</i>
Theme 2	<i>how did it get there?</i>
Theme 3	<i>how does it communicate?</i>
Theme 4	<i>seeing a way forward?</i>

*Day Two* -- will comprise a plenary session where each chair will report back to the whole group.

Although this themed structure will be maintained over each of the three annual workshops, it is recognised by the project managers that being overly prescriptive at this early stage may serve to limit the workshops' potential. The steering committee will be responsible for expanding on the structure and content of the workshops as the project develops in order to best achieve a commitment to totally rethink the theory and practice of visual discourse and start to map out an agenda for the future.

### *Strategic Report*

The strategic report will provide a substantial working report to be published on line at the end of the project's second year, substantially fulfilling Objective 3 and contributing towards Aims 1-3, and Objectives 1, 2, 4 & 5.

A substantive report dedicated to:

- the investigation and assessment of visualising practices as historically utilised in archaeology and how they contributed to the dissemination of knowledge and understanding;
- an overview of the advantages, possibilities and potential pitfalls for visualisation strategies afforded by recent technological innovations, show casing examples of current best practice;
- horizon scanning for future trends and assessing their potential within the discipline of archaeology;

- develop a working statement of professional standards, best practice, anticipated skills requirements, archaeological graphics policy, and potential areas of future research.

The strategic report will be directly managed by the project managers (GG and SM) with the support of a Strategic Report editorial committee (SREC) comprising TP, RR and SJ from the project team and a number of invited specialists including Dr Robin Taylor (Publishing Manager, English Heritage). The SREC will determine the scope and content of the report.

As a working report, it is envisaged that its extent will run to some 10,000 – 12,000 words and will be published on-line via the project's website. Feedback from a variety of constituencies will be sought and monitored over the project's third year when, it is expected, a full report will be produced in the post-project phase (see below). Importantly, this will have the advantage of acknowledging feedback generated by the working report, presenting a digest of all three workshops, and include relevant papers presented at the international conference.

#### *Best Practice*

Current modes of dissemination that differ from the traditional model of publication will be actively sought and assessed, contributing towards Aims 4 & 5 and Objectives 2-5.

Examples of best practice as generated by current innovative models of publication and dissemination will be show-cased on the project's web site, examining issues such as the rationale for a given mode of publication, its integration into the overall project of archaeological investigation, its perceived audience, advantages/pitfalls of the approach, etc.

The project's steering committee will approve the method and range of data collection. It is proposed that RR will meet with archaeological contractors and consultants (budgeted at nine visits per year) to collate the required data and report back to the steering committee. The resulting database will be edited and placed on the project's website where each example of best practice can be downloaded as a .pdf file.

#### *Academic Resource*

An archaeological and interdisciplinary, one-stop resource for all practitioners, academics and students who engage in the visualisation of knowledge, contributing towards Aims 2 & 3 and Objectives 1 & 2.

Over the project's three year period of operation an academic resource comprising summaries of current research and, as its compliment, a wide ranging bibliography will be constructed drawing on a number of disciplines that take as their central theme of investigation the visualisation of knowledge.

The content of this resource will be shaped and overseen by the steering committee although its construction and maintenance will be the responsibility of SP. This resource will be posted on the project's website and up-dated following each steering committee meeting.

#### *International Conference*

The project will culminate in an international conference that will build upon and extend Aims 1-4 and Objectives 1 & 2.

A wide-ranging international conference held at the University of Southampton in week 154 of the project, designed to bring together all aspects of inter-related research concerned with the visual representation of data. The steering committee will, from the outset of the project, work towards defining and structuring the aims of the conference. Contributors will be invited to present publication standard papers.

## **4 Dissemination**

#### *Project Web Site*

The project web site will act as the main point of dissemination for a minimum period of four years, fulfilling Aim 5 and Objective 5.

The web site will, through a series of thematic downloads, systematically present the results of the project's research. An 'open access' policy will be identified by the steering committee to ensure that dissemination is strategically structured, encouraging maximum engagement from and between numerous constituencies. The project managers, in consultation with the steering committee and web master, will be responsible for its content and administration.

Results generated by the workshops, the strategic report editorial committee, the steering committee and the international conference will provide the principal content for on-line publication. Specifically, this will include:

- steering committee summaries and periodic project reviews;
- workshop announcements, summaries and interim reports;
- strategic report research summaries, periodic reviews and full publication;
- best practice in innovative modes of publication and dissemination will be show-cased;
- a central, one-stop resource for those actively participating in the visualisation of knowledge through the creation of an inter-disciplinary bibliography and a summary of current research;

- an international conference section providing a main point of contact between the conference organisers (steering committee) and potential/actual delegates. Abstracts and delegate details will be posted. Online booking facilities will be available.

Links will be established between the project's web site and those of other organisations (eg EH, EAA, AAI&S, IFA, CBA, etc) to further promote the project's aims.

#### *Seminars, Conference Sessions and Project Conference.*

The delivery of various university seminars and conference sessions, contributing to Aim 5 and Objectives 1, 2 & 5.

It is anticipated that the project's principals will periodically present the results of the project's research at university seminars, conference sessions (ie IFA, AAI&S, EAA) and, ultimately, at the project's own conference. This would also provide excellent opportunities to further specifically promote the project's aims and objectives to a targeted audience.

#### *Post-project Publication*

During the project's period of operation, dissemination will principally take place via the project web site and/or fed through to English Heritage in the form of summaries, interim reports and recommendations with the specific aim of shaping an archaeological graphics policy, contributing to statements of best practice, and informing the establishment of professional standards in visualisation. It is anticipated that the project will feed back into periodic revisions of EH archaeological graphics and publication/dissemination strategies, provide an insight into future skills requirements in graphic visualisation, and isolate future areas of professional and academic development. As English Heritage's principal representative on the steering committee, Trevor Pearson will advise on the content, form and direction of flow of all information generated by the project deemed useful to EH departments.

However, following on from the conference, it is proposed that the conference proceedings be written up over a period of 12-18 months in preparation for publication. And, to reflect the integrated nature of this proposed research project, a full project report of academic calibre will also be completed in parallel with the conference proceedings for online publication (including possible paper publication elements). Further, the full Strategic Report will be produced, published on-line and feature a possible paper summary. *This process will be subject to a separate funding application.*

## **5 Resources and programming**

The gross cost of this three year project will be £179,519.00. If this application is successful, it has been anticipated that the project will commence on 1st November

2007 although background organisation will take place as soon as written notification is received. The principal cost of the project is reflected in the calibre and range of its participants and the project's creation of a research 'space'. The project team represents a robust cross section of archaeological practitioners drawn from commercial and academic backgrounds as well as specialists from other, related disciplines. The project team is detailed in Appendix A.1.

The joint project managers are Garry Gibbons (GG) and Professor Stephanie Moser (SM) who will bear ultimate responsibility for the co-ordination, management and reporting of all project activities. Trevor Pearson (TP) will directly represent English Heritage in the project at its operational level providing an essential link between the project and key areas of English Heritage at both the individual and departmental level. A core group of specialist consultants comprising Dr. Simon James (SJ), Prof. Sam Smiles (SS), Prof. Steve Woolgar (SW) and Rob Read (RR) will work with the project managers to strategically inform all aspects of the project. Development and maintenance of the project web site will be undertaken by Steve Cheshire (SC). Additional administrative support for the conference will be provided by Sara Perry (SP) who will also compile the academic resource. Proof reading services will be carried out by Alice Denning (AD). Ann Clark (AC) will provide copy editing services and contribute to each post-workshop steering committee meeting per year. A statement of management structure and responsibilities is provided in Appendix B.1. HEEP's Project Officer (PO) to be confirmed.

Project costs include all anticipated expenses for the steering committee, the strategic report committee, the annual workshops and the administrative costs of the conference (covering travel, subsistence and facility hire where applicable). Allowance has been made for two international participants in the 2009 and 2010 workshops. Budgets for the publication of summaries, interim reports and reports arising out of the project's activities have also been anticipated. A research budget has been specifically allocated to the strategic report as well as costs for its on-line publication. Staff costs to create and maintain the Best Practice and Academic Resource have both been included. Periodic project management costs have been covered as have the production of quarterly/annual accounts.

Costs for attendance at conference by the project's principals to be agreed as necessary.

The Task List required to achieve the project's aims and objectives is presented in Appendices C.1-3. A summary Gantt Chart will be found in Appendix D.1. The project's Financial Summary is outlined in Appendices E.1-3. Appendices F.1-3 detail Costs by Task. Appendix G.1 outlines payments, dates and performance indicators for 2007/10. Finally, Appendix H.1 provides Submission Details.

A health and safety policy will be adopted in line with English Heritage recommendations.

## 6 References

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