

Recording Rock Art A Conflict of Purpose?

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Introduction

Techniques for recording rock art are extremely varied. Although most people agree on the need to combine the use of photography, drawing and verbal description, there is an enormous variation in how photos, drawings, notes, etc. are produced in the field, and how they are reproduced in publication and for archive.

As a result of this diversity, the question is sometimes raised as to what is the best method for recording rock art? Is there a best method? Should we aim at a standardisation of methods to obtain comparable results? Can we construct standard terminologies for descriptive purposes?

What to Record and Why

Before we can discuss how best to record, we must obviously consider *what* needs to be recorded on a rock art site. What levels of detail and of accuracy are required, how comprehensive should records be? Are the current trends towards increasing concern with minutiae of detail and accuracy of form relevant, or merely a pedantic waste of time and resources? Are comprehensive records desirable, or can a 'representative sample' be adequate — and if so, how should a rock art site be sampled?

Answers to this string of questions, in turn, depend to a large extent on the *why* of recording — what is the purpose of the records? There seems to be a fairly general view that rock art records are made primarily from two points of view:—

1. for purposes of management of a 'cultural heritage';
2. for academic purposes — i.e. for technological and ethnological research.

These two purposes are of course not mutually exclusive — in fact, I will argue very strongly that they are heavily interdependent. Their respective foci of attention, however, may well differ significantly.

The question of what to record, or to select as a basis of classification is not, of course, unique to rock art. It applies to all aspects of material culture:—archaeologists and ethnologists alike record and classify objects for purposes which are analogous to those of rock art recording, viz — curating and academic study of some aspects of human cultural behaviour. Much has been written, particularly in the archaeological literature, on the concepts and aims of classification which, in turn, of course determine the recording systems required. For a critical evaluation of much of this literature, see Hill & Evans¹.

At one end of the scale, is the concept of typology,^{2, 3} i.e. the description of an assemblage of artefactual data in terms of a number of distinct types into which all — or most — of the individual items can be classified, so that an assemblage (or an art site) can be adequately described by a number of type descriptions (or type illustrations) with some indication of the range of variation that exists within types, and of relative frequencies of types. This approach has also been used in rock art, but the definition of types is often even more complex than it is for other items of material culture. In certain art styles (as in some material culture complements) 'types' may not exist. In any case, types, when they do exist need to be demonstrated by formal analysis, and not be predetermined by the recording system.

At the other end of the scale is the claim that the goal should be the fully accurate and comprehensive recording of all traits of the data, thereby not affecting any selectivity which could influence or restrict subsequent analytical procedures. In this context, it is often emphasised that, since we cannot foresee future research requirements, any present-day selection of what is considered significant or insignificant, will almost certainly be decried as research and other interests develop.

Although pragmatists will point out that such a goal may in fact be impracticable, yet it is still often considered a desirable aim. I think it is legitimate, however, to question whether it is even desirable or meaningful.

Is the concept of total accuracy and comprehensiveness a reality? Or rather isn't recording, by its very nature a process of selection? Surely the purpose of recording a rock art site is a matter of extracting that which is pertinent from out of its total universe. This process necessarily entails the formulation of arbitrary boundaries, not only of space and content, but also of scale — both quantitatively and qualitatively (i.e. in the field of measurement and in the levels of description used for physical or compositional properties).

David Clarke⁴ for instance discusses just this point in the context of archaeological objects, when he points out that there are in fact a virtually infinite number of possible traits to any artefactual data. However as an archaeologist (and similar arguments can be raised from the point of view of any analytical paradigm) he is concerned with past human behaviour. It is therefore not only legitimate, but indeed necessary, to select out those traits which reflect aspects of a past human behaviour — viz. artefactual traits and those non-artefactual traits which influence or are controlled by human behaviour. A whole range of other traits of the data can, from the point of view of any specified analytical approach, be considered as extraneous 'noise' — extreme examples might be, say, the colour or chemical analysis of stone used for making artefacts, the metallurgical properties of bronze age swords, or for rock art, the geological age of rock formations, the petrological properties of its constituent minerals, its fossil content, etc.

In other words what is required from a record of data is a selection of traits which are pertinent to any particular analytical consideration, and the elimination of that which is not pertinent — and in the field of ethnology — in its widest sense — this means all artefactual traits, and all those natural traits which in some way affect the artefactual data. And this, of course does imply that recording must inevitably involve a degree and level of selection which is determined by the theoretical precepts or vision of the recorders.

Now it is undoubtedly true that future research requirements will differ from our own, and that we cannot foresee what these will be. Just as present day researchers mourn (or moan!) over the lack of insight or adequacy of our predecessors' observations, so, no doubt will future generations bemoan our deficiencies — but I do not believe that it is possible to avert this by any form of recording system. Can we aim at a *total* description of arte-

factual traits short of making replicas — and even then, to what degree of quantitative accuracy of form and dimension should we aim. (See below, p. 13 for a discussion of the applicability of photogrammetry to rock art recording.) Can we determine the range of non-artefactual traits which are pertinent to a consideration of past human behaviour without foreknowledge of exactly what that behaviour entailed both physically and conceptually? Can we assess the levels of accuracy, or what scale of detail will in future be considered pertinent for an evaluation of the data without fore-knowledge of the theoretical frame of reference such analyses will be determined by? The answers to all these questions are clearly *NO*. And therefore, by definition, no record, however carefully or imaginatively made can *guarantee* to fulfill future requirements.

In fact nothing short of a total reproduction of all site data at atomic level — or in other words nothing short of the preservation and conservation of the original data can ensure the fulfilling of future research requirements. And that is why, in my view, even if we were to take a narrow strictly academic standpoint, preservation of existing data must have the highest priority (quite apart from social and ethical considerations).

Then what should we aim at in making recordings of rock art sites? How do we select and do we, in fact, want to record rock art except within the context of any specified investigation?

I suggest this must be answered at two levels.

On the one hand there is the problem of sites threatened with destruction or at least with serious deterioration — here, clearly the aim would have to be to make a record which is as comprehensive and detailed as the present day perception and imagination — and technological resources allow. On the other hand, considerations of priority will arise in the deployment of resources, and it may justifiably be questioned whether say, yet another small shelter with just a couple of hand stencils is really worth more than a note, with perhaps some photographs. In terms of minimising the possible loss of useful information for the future — the answer must be *YES*, but in practice it is doubtful if there is a general answer.

Most recording work, fortunately, does not concern such rescue work. Now, in view of the above comments, about the selectivity of recording systems, is it worth giving more than a very general indication of the nature of a rock art site outside the context of a specific analytical project? I believe it is, for the generation of analytical projects is of necessity dependant on a corpus of data, and the more specific the initial data, the more specifically can the research objectives be formulated. In other words, I see a significant feedback

system between what we might term general or survey recording projects, aimed largely at site management and more specialised research orientated recording projects. Whereas the level of information available will markedly influence, or even determine, the formulation of research objectives, results obtained from more detailed (frequently academically orientated) research projects, may in turn generate new recording requirements, or a reorientation of existing ones, which will enhance the level of the corpus from which more probing research objectives can be meaningfully generated. Hopefully the process leads towards an increasingly more perceptive appreciation of the particular art body concerned, and a more discriminating delineation of its style, content and techniques, thereby opening the way toward an evaluation of its chronological and cultural relationships to other art bodies. Perhaps it may even lead towards greater understanding of art as a fundamentally human manifestation!

Recording Requirements

With these considerations in mind, I will now outline what I see as the present state of rock art recording requirements. This is based to a great extent on joint work: both fieldwork and discussions with a number of colleagues, first in Europe and now here in Australia. I am referring most specifically to 3 people, Peter Ucko, Bob Layton and Michel Lorblanchet.

Consider the recording requirements of rock art of two very different research projects. An ethnological investigation and an investigation into the causes of rock art deterioration. These projects encompass very different disciplines, focus on different aspects of the same data from very divergent points of view. They will be formulated within significantly different theoretical systems. Can one recording system be devised to satisfy the requirements of each without undue elaboration of technique or duplication of recording of the same traits? And I am referring here to a system which might be operational at the 'general' level — i.e. which would form the basis from which more specialised research programmes could usefully be designed.

The ethnologist will be concerned with content, that is form, at a level which enables him to distinguish indigenously perceived categories, or in the case of an archaeologist, some hypothesised categories of content, and to determine the extent to which the visual expression of these categories is either standardised or variable. In other words he requires a record of the form of images to the limit of what can be seen by the unaided eye — or to the limit of control of the technique employed, e.g. a level of accuracy of a higher order of magni-

tude than can be controlled by the width of brush strokes or of pecking marks will not be pertinent to that particular consideration. However, without prejudging which aspects of form are culturally significant, accuracy of formal rendition right up to that level is required — in other words a careful copy of the images, with all their details and not freehand sketches, however competent.

In addition, since rock art is rarely executed on plain surfaces, it becomes relevant to examine the actual form i.e. the spreading out of the actual art work onto a plane surface (usually best achieved by making a tracing), and a projected image which renders the observed form (usually most easily achieved by photography). For these two records give information about image construction and about visual effect respectively.

In the case of paintings, a colour description is required, in view of the frequent symbolic connotations of colour, or the significance which may be attached to pigments obtained from particular localities. Furthermore, colour may be used to give information of content — a red figure and a similarly shaped white figure may represent different categories of content. Colour changes may sometimes also have chronological implications.

The record of the spatial relationships between figures is required, including any superposition and/or renovation of figures, since this may encode information of a symbolic, narrative and/or chronological nature. Thus a plan, or other locational recording system of the decorated area is needed in sufficient detail to record this spatial distribution of art upon the — often very irregular natural rock morphology.

This last type of record, furthermore reveals the existence of 'blank' or 'unused' areas. Since areas may be left blank, or conversely certain areas selected for artistic expression for a variety of reasons which range from technical suitability or accessibility of surfaces, to culturally controlled concepts of a symbolic nature, it becomes relevant to record aspects of surface texture, form, patina, exposure, etc. In other words, it is necessary to record a range of non-artefactual criteria of the support, such as natural rock features which relate to the art work. However, it is difficult at this stage to suggest definitive criteria for the selection of natural traits since we do not, as yet, have any clearly defined hypotheses of how or why or when natural features do, or do not, influence the artists' work. A number of fairly obvious reasons can be postulated, for instance, rock shapes such as ridges, hollows etc., which affect the shape, size or disposition of art on the rock. Cracks or other features which cut across a figure may affect the continuity of line or area which would remain unexplained on

a record of the art work alone. Such features may arise either before or after the execution of the rock art, and include items such as wasps' nests, lichen, water flow etc.

Finally certain physical properties of the pigments and of the support can influence both the technical performance of the artist and the visual effect created. Thus, rock colour, surface texture, porosity, etc., can be 'significant' traits to record, as are technological details such as pecking, engraving, abrading, dry pigment, wet paint etc., all of which impose some, though usually rather broad, restrictions on artistic possibilities.

The rock conservator on the other hand will focus in the first instance on physical, chemical or mineralogical aspects of the data. Rock composition and structure, rock surface, especially the nature of the patina, nature of the pigment, technique employed and its effect on, or interaction with, the rock surface are all relevant information. Aspects of form of the art however, are also pertinent to conservation — or deterioration studies — for if changes in, say extent of paint or shape of peck marks, can be observed over a period of time, this surely must contain information relating to rates, and perhaps also to processes, of surface alteration. The conservator will probably approach the art on the rock as just another trait of the rock surface, and consider information pertaining to the art from the same standpoint as information from other traits of rock surface. However, if changes in rock surface are of interest, then the record of shapes — whether of artefactual or natural traits may well be required with a higher degree of precision than are required for an ethnological record.

Finally the relation of the art to the natural morphology of the site will be pertinent from the point of view of its exposure to the elements light, heat, rain, wind etc. — and its propensity towards concentration of decay elements, e.g. hollows which tend to concentrate moisture by flow or by condensation, and exposures which may be preferred by various organisms . . .

If we now examine these two lists — we will find that despite totally contrasting preoccupations, there is a remarkable range of overlap of trait selection — both of artefactual traits and of natural traits. What will tend to differ significantly is the conceptual system within which these need to be expressed.

To give some obvious examples: the nature of the rock support — the ethnologist may wish to know that the rock is hard, smooth surfaced, compact, dark in colour, whereas a conservator will consider it more useful to see the same rock described in terms of other criteria, for instance, as a finergrained crystalline limestone. The ethnol-

ogist will be more interested to know that a pigment consists of a 'flaky white paste which reveals brush strokes', whereas a conservator may be more interested to see it described in terms of its pH, body texture and dispersive power than to know its colour and surface appearance.

It is at this level that, I think, most of us have not yet fully come to grips with recording procedure. To date the emphasis on rock art recording has been towards an ethnological framework, and the system used by workers such as Bob Layton, myself and especially Michel Lorblanchet⁵ who has perfected many recording techniques, particularly in the field of photography — is geared primarily towards ethnological problems. Similarly, work on attempting to standardise terminologies relating to art form and technique, notably for instance by Maynard⁶ are also formulated within the framework of an essentially ethnological interest. To what extent present systems of recording and description should or can be modified to encompass greater usefulness across disciplinary boundaries, is a problem which has not yet been explored, but which under the impetus of increasing research in rock art conservation must need consideration if fruitful co-operation between recorder, conservator and ethnologist is to flourish.

In postscript, then I propose to outline the procedures for rock art recording which I have been using, namely the combination of photography, drawing and surveying (each supplemented by field notebooks!).

Recording Procedures

Photography

Photographs ranging from general views of the site, of the surrounds of the site, of specific areas of the site, groups of figures, individual figures, detail within figures, down to enlarged photography of technical or superposition details. What is particularly important in photography is that it renders the observer's perception, as opposed (possibly) to actual form. For instance I consider it not only admissible, but actually useful to take photos of large horizontal figures such as some of the Sydney-Hawkesbury area or at Port Hedland from a normal standing position — with all its resulting distortion.

In addition, photography can be an aid to observation — for a variety of reasons, some traits may be more easily visible on photographs than on the site. This change in relative visibility can be further enhanced by the use of controlled lighting and/or filters. Furthermore, the use of polaroid photography can greatly speed up initial examination and note taking at a site. I see the purpose of photography, therefore, primarily as descriptive — but it can also be a tool for 'searching' or 'exam-

ining' data and thereby assist in ensuring a reliable level of comprehensiveness of the record. Macro-photographs have been used successfully, for instance by Lorblanchet⁷, to study technical aspects of engravings.

Drawing

Clearly where practicable, direct tracing will give the most reliable rendition of actual form. For levels of accuracy beyond those which are required for an ethnological study, it may be necessary to use accurately scaled photographs in which the relation between plane of rock surface and plane of camera need to be known, and perhaps photogrammetry. The requirements of tracing materials are transparency and dimensional stability. For instance, sheet polythene which is cheap and therefore widely used is not an ideal material, since it stretches irreversibly. Acetate sheet, obtainable in varying thicknesses is relatively cheap, does not stretch, and is highly transparent. In practice a thickness of 3/1000th inch (approx. 0.1mm) generally gives most suitable compromise between the excessive rigidity of greater thickness and the fragility of thinner sheets, which tear easily. Since acetate is not chemically stable in the long term, such tracings are not suitable for archival purposes.

There is, however, a very real and insurmountable problem with tracing, and that is that it is not possible to bend and curve a flat, non-stretching surface over a three-dimensionally curved surface. Approximations of the distortion caused can generally be assessed quantitatively to an accuracy sufficient for ethnological purposes, though not necessarily for a conservator's purposes. Tracings can, of course, be extended over large areas by joining sheets, and thus indicate the spatial relationship of figures.

The most important aspect of tracings is that they can be used to effect a controlled selectivity over which traits are recorded, that cannot be obtained photographically. Tracing is also a useful technique in the deciphering of difficult figures, particularly within complex superposition sequences, where a particular line or texture quality may be traced out selectively, or for faint, poorly visible or very fragmentary figures. Where for any reason tracing is impractical, grid drawing with a flexible grid may have to be resorted to — the use of rigid grids would produce results analogous to the projections produced by photography.

The reduction of field tracings to drawings of manageable proportions is best carried out photographically. It is, of course, essential at this stage to ensure accurate camera alignment to avoid distortions, and to include suitable scales on each photographed tracing to standardise print size. Black and white prints on contrast paper or trans-

parent film can then be used — in conjunction with the originals which hold the colour code — to reconstruct large areas onto drafting film or other suitable material for analysis and publication. In the absence of suitably stable tracing materials for archive, colour photographs of tracings may be desirable.

Colour

Munsell or other colour matching cards are difficult to use in field conditions. They are designed to use with a small movable sample of material, not with contorted, fragile or inaccessible surfaces, over which minimum light control can be effected. In practice small colour samples prepared with artists crayons on white cartridge paper and matched against the painted surface are relatively easy and rapid to make, and are easily stored.

Site Survey

Plans, elevations, sections can be made by normal survey techniques, but it is here, I think, that photogrammetry shows the greatest promise from the point of view of rock art recording. Although the equipment is relatively cumbersome, actual field-work is surprisingly quick and uncomplicated. It is the subsequent drawing up of maps from the stereopairs which requires special skills — and an extraordinary degree of visual and physical co-ordination. Experienced plotters are scarce — and cannot make the art recorder's selection of traits. In other words any art recorder wishing to use photogrammetry must also become a photogrammetric plotter.

However, there is no doubt that photogrammetry has some significant advantages over conventional surveying, not the least being that maps can be redrawn with a different selection of traits or scale from the same photos without returning to the site. Site plans, and particularly contoured plans of decorated surfaces, can be produced with greater ease and detail than is normally practicable by conventional methods^{8,9}.

Since photogrammetry has on occasion been hailed as the ultimate solution to the archival recording of large bodies of rock art, I would like to emphasise some of the limitations that still operate with this recording technique.

Firstly, the equipment can be difficult to handle in confined spaces, and it is apparently particularly difficult to use photographs taken with the cameras held at an angle from the horizontal. There is a severe limitation over the angles from which surfaces can be recorded. In some cases, therefore, it becomes physically impossible to photograph certain rock areas, particularly in small shelters or niches, or where complex rock morphology contains projections which obliterate certain sections of rock surface from the camera's field of view.

Even when it is possible to effect full coverage of desired surfaces, great care needs to be taken in the field to ensure that areas behind small projections are covered by taking an adequate number of shots from different camera positions, and this does require much careful planning during photography.

The area covered by each set of stereophotographs depends on the length of the baseline between the cameras: thus for relatively detailed work a short baseline is required, and from more general views a longer baseline. The currently available equipment¹⁰ is relatively inflexible, and

to cover most rock art sites exhaustively all existing systems of cameras would be required.

Finally, even if developments in photogrammetry increase its flexibility — (and reduce the costs), it still remains a photographic technique. Not only is it limited to a visual record, it produces an unselective image or rather one in which selectivity of what is recorded cannot be controlled effectively. It cannot supercede the need for detailed field drawings and notes on which trait selection and trait identification are made from the primary data.

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