FROM THE MOAT TO THE MURRAY: Teaching practical archaeology at La Trobe University, Australia

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Abstract

This paper presents two current approaches to teaching practical aspects of archaeology at La Trobe University in Melbourne, Australia. One makes use of a simulated site constructed on the university campus where senior undergraduates are introduced to the complexities of excavation and project management from planning through to publication in a ‘safe’, artificial environment. The second is a field school for fourth year Honours students where the focus is on survey and documentation of Indigenous sites in a ‘real world’ situation, where the data gathered over several years will eventually be used to develop a cultural heritage management plan for the study area. These initiatives are considered in the context of current concerns regarding the training of students as professionals.

Introduction

The tension between archaeological education and the specific demands of practical training is nothing new (McBryde 1980). Even when most archaeology was conducted as pure research, the growing demands of applied archaeology made this a significant issue. Since the 1990s, archaeology programs in tertiary institutions in Australia and elsewhere have been faced with the challenge of teaching increasing numbers of students, often with static or diminishing resources (Beck and Clarke 2008:2; Brookes 2008:5; Colley 2004:192). Most students do not aspire to become professional archaeologists (Aitchison 2004:205; Brookes 2008:2; Colley 2004:190), so university courses must accommodate varied interests and be designed to teach generic transferable skills, rather than practical, discipline-specific ones. In analysing survey responses from participants in the Birkbeck training excavation, Brookes (2008:13) went even further in arguing that generic skills should be the goal of fieldwork training.

In the state of Victoria (Vic.) a boom in contract archaeology since the introduction of the Victorian Aboriginal Heritage Act 2006 has resulted in a severe skills shortage (Webb 2008). Consulting companies struggle to find and retain experienced field archaeologists, and blame universities for producing graduates lacking in practical skills and experience (Colley 2004:193; Gibbs et al. 2005:24). Part of the responsibility for this lies with university structures that seldom allocate appropriate financial, human and material resources for inherently practical, and thus costly, subjects such as archaeology (Colley 2004:192), and, naturally, the conflicting demands of a general education and specific technical training. Consulting companies, however, are equally culpable—keen to use student volunteers as free or cheap labour (often doing mind-numbing tasks devoid of responsibility), and few contract archaeologists invest adequate time and effort in professional development for their volunteers.

In addition, the prevalence of shovel test-pitting in Vic. further limits what students might learn while fulfilling the fieldwork experience requirements of their courses. The result is that few have opportunities to learn how to excavate, record and analyse complex archaeological sites and assemblages before graduating. Equally important, if not more significant, is that they generally only carry out specific tasks and do not see or learn the full process of developing projects through to a final product—and in many cases the reports prepared for clients by necessity emphasise management issues rather than an engagement with broader research agendas.

Given the increases in student numbers, and the widely accepted desirability and benefits of exposing archaeology students to the practical realities of fieldwork, archaeology programs can no longer rely on departmental research projects to meet the demand for practical fieldwork experience. One response to this has been the emergence of fee-based field schools, such as those commonplace among North American universities (Piscitelli and Duwe 2007). The ethical, pedagogical, logistical, OHS and funding issues associated with running field schools (Hall et al. 2005:48–49) have prompted others to seek alternative, innovative approaches. Foremost amongst these is the simulated excavation developed by Jay Hall and his colleagues at the University of Queensland (UQ) (Hall et al. 2000, 2005).

Teaching archaeology at La Trobe University (La Trobe) has always had a strong emphasis on practical aspects of the discipline, blending theory, method and practice. Along with learning skills through an informal apprenticeship system by assisting with research in the laboratory, formal courses have consistently introduced the identification, documentation and analysis of artefacts and ecofacts (Cosgrove 1997; Holdaway and Stern 2004), as well as other aspects of practice (Bird and Frankel al. 1989). With the increasingly specific demands for competent graduates capable of working in local consulting archaeology, we have been concerned with developing new strategies. In this paper we describe and discuss two current approaches to practical training, one on-campus and the other involving field training in northwestern Vic.

A TARDIS by the Moat

Background

The La Trobe TARDIS (‘Teaching Archaeological Research Discipline In Simulation’) is closely modelled on the very successful scheme developed at UQ mentioned above. It provides third year archaeology students with the opportunity
to plan and undertake a short excavation within the broader framework of the Approaches to Archaeological Research subject, a core unit of our Bachelor of Archaeology undergraduate degree and a prerequisite for all students intending to go on to complete a fourth year Honours degree. Students explore the merits and drawbacks of different archaeological strategies and techniques, work together 'on-site' in small groups, collate and analyse the results of their excavation, and prepare a final excavation report, incorporating data from the TARDIS archive.

The primary incentives for developing a simulated excavation facility have been well set out by the UQ team (Hall et al. 2000, 2005) and need not be repeated here, other than to identify several key issues:

1. Indigenous heritage issues—for example, not exploiting Indigenous sites as training exercises;
2. Professional ethics—including respect for sites and approaches to documentation and reporting;
3. Narrow scope of field training—which can be broadened by confronting sites with a degree of complexity;
4. Difficulty in providing objective assessment—this is hard to achieve in real field situations, but can be better defined in a controlled environment;
5. Logistics—especially the convenience for students who have difficulty finding time for long periods in the field, ease of organisation, complexities of permits and responsibilities required in working on real sites; and,
6. Cost—once built the specific costs of running this form of fieldwork training are very low compared to those on real sites.

Aims and Objectives

At a general level this subject is intended to extend students’:

1. Research and writing skills learned in first and second year subjects;
2. Understandings of ethical research behaviour in archaeological writing and research;
3. Ability to write a sophisticated archaeological analysis grounded in primary evidence; and,
4. Skills of independent and lifelong learning in archaeology.

More specifically, the subject is intended to develop students’ understanding and abilities with respect to:

1. Aspects of theory, method and practice of archaeology, including:
   • the structure and construction of the archaeological record;
   • the relationship between evidence and explanation.
2. The practice of research in archaeology, including:
   • core concepts and ethics of research;
   • approaches to problem definition;
   • strategies for addressing problems.
3. Industry-related and research skills, including:
   • project design and management;
   • techniques for documenting evidence;
   • development and presentation of arguments and ideas;
   • communication skills and the presentation of data and results verbally, in text, tables, diagrams and illustrations;
   • management of information, projects and data;
   • report writing.
4. Personal skills, including:
   • time management;
   • project management;
   • team-work and interpersonal relationships;
   • formal assessment of co-workers’ abilities;
   • accepting responsibility for the quality of, and public access to, information generated.

In working toward these objectives, the TARDIS provides an opportunity for students to gain some hands-on experience, which we believe is essential for appreciating theoretical concepts and practical processes. A related philosophy is that it provides a ‘safe’ environment where students can learn from their mistakes (and those of others), rather than by following formulaic, set instructions and ‘correct’ procedures, or seeing only the polished results of successful research.

Our TARDIS by the Moat

Our TARDIS was constructed adjacent to the Archaeology Program offices, laboratories and workshop, and beside a waterway running through the campus (the ‘moat’). We followed the primary design of the UQ model, with a 5 x 5 m wooden structure within which a series of artificial ‘sites’ was laid down, building up to a total height of about 2 m (Figure 1). The sleepers making up the walls are slotted into a strong metal frame so that they can be successively removed as the deposits are excavated and the surface lowered, allowing convenient access. The overall cost in 2008 was at least AUD$25,000 for materials and labour (not including the time and effort of academic staff and student volunteers). Although seemingly a large investment, when amortised over the decade or more that the TARDIS will be used, it is not so great a price for so useful a facility.

Where Hall and his colleagues used a series of textbook case studies or scenarios on which to base their sequence, we opted instead to use seven examples drawn directly from research by La Trobe staff. This approach creates a close link between the scenarios in the TARDIS and the projects and material students are exposed to in introductory subjects, such as first year Discovering Archaeology, where archaeological methods and techniques are introduced with reference to case studies drawing on our own research projects.

For the La Trobe TARDIS, the sequence of layers from bottom to top is:

1. Plio-Pleistocene Africa (Nicola Stern) (Figure 1);
2. Indigenous Pleistocene Tasmania (Richard Cosgrove);
3. Natufian Jordan (Phillip Edwards) (Figure 2);
4. Neolithic China (Li Liu);
5. Bronze Age Cyprus (David Frankel and Jenny Webb) (Figure 3);
6. Mayan Mesoamerica (David Frankel and Jenny Webb) (Figure 4); and,
7. Nineteenth century Melbourne (Susan Lawrence and Peter Davies) (Figure 5).

These scenarios were kept simple, with clear demarcation (consisting of a thin, sterile layer of red scoria) between each. Nevertheless, post-construction taphonomic effects created
some unexpected consequences within, if not between, the primary layers, with more complexity being introduced by the work carried out in previous years. By 2011, with two seasons of excavations completed, students were confronted by a patchy exposure of material: a considerable remnant of partially excavated nineteenth century material and varied degrees of excavation in some squares of the underlying Mayan layer. Even with access to the previous years’ notes and reports, this created immediate challenges in determining strategies about how best to proceed.

In hindsight, we can see several aspects that we would change if we were to construct a new TARDIS. For example, while we would ideally maintain the important element of integrating the sample sites with other aspects of research and teaching, the creation of these different scenarios is to some extent unnecessary, as it is very unlikely that anyone will experience the excavation of all layers. More specifically, we would make greater effort to ensure a more even distribution of material across each layer, as the attempt to reproduce reality within each left some areas relatively barren and others with disproportionately many artefacts, affecting the comparability of different students’ material. We would probably simplify the scenarios in other ways, again with greater attention paid to setting up the construction and depositional sequences within each layer. On a more practical level, a rectangular (perhaps 8 x 3 m) structure would give better access to different areas of the site.

Subject Organisation
Although built around the excavation in the TARDIS, only a small proportion of students’ time is actually spent excavating. The subject includes much consideration of approaches to research generally; to research and excavation design; to
recording systems; and to the preparation of reports. In this way, the project—rather than the excavation per se—is the primary frame of reference, with the TARDIS excavation serving as a focus for activities and discussion.

In the first year of operation (2009) the excavation took place over six weeks in the middle of the semester, when students spent most of their three hour class time each week working on the site. In 2010, with a larger enrolment, the primary field time was changed to two days on successive weekends, with some supplementary time in later weeks. Although the weekend schedule placed substantial demands on the staff involved, students spent significantly longer on-site and enjoyed a less cramped and frenetic experience (Figures 6 and 7). In 2011, with an even larger enrolment (51 students), weekend work became more difficult to arrange and the process reverted to that of 2009, but with three separate sessions during the week, each with one-third of the class.

During the course students work in small groups, with each team taking responsibility for all decisions on the approach to excavation, research design and its implementation, as well as documentation and reporting, within their designated areas. Of course this is not totally free of constraints imposed by the neighbouring groups and some common (imposed) recording systems, but nevertheless this leaves many decisions for students to make—for good or ill—for themselves. Associated with this, the organisation of the subject (the sequence of assignments, topics and discussions) allows for reflexive review and reconsideration so that students can learn from their mistakes and, sometimes, correct them. This works best when the excavation sessions take place over several weeks. As part of this evaluation, teams give presentations in class on their discoveries, and are also enjoined to incorporate associated information from neighbouring teams’ areas, forcing them to liaise, ‘think outside their squares’, and discuss and present excavation features and data they were not directly familiar with. The quality of field notes is the basis for one group assessment, with an individual assignment in the form of a critical evaluation of their quality and utility. These self-conscious evaluations can include an assessment of the abilities and contributions of team-mates (with due controls on confidentiality!). The final, major assignment is the preparation of a formal site report on the excavation.

Of course, all students were fully aware of the overall structure of the TARDIS and the broad sequence of layers, although not the details of each. To some extent this was a distraction, as students’ original research aims were often too grandiose (e.g. ‘exploring the nature of middle-class values in colonial Victoria’) and created a tendency to spend time investigating specific items rather than focusing on aspects of site formation or the distribution of artefacts—or a rush toward more ‘interesting’ periods.

**Associated Structures and Strategies**

Online material is used extensively in the subject. Much supplementary material is provided using the La Trobe Learning Management System, including a freely accessible archive of the work of past students: log-books, context sheets and other raw data, as well as the formal site reports. Equally importantly, the online system also serves as a constant avenue of communication amongst students and between staff and students. Individual groups communicate and share data and images via this official system and Facebook, and in 2010 wrote entries for the LTU TARDIS blog (<http://latrobe-tardis.blogspot.com/>), see also <http://canudiggit.weebly.com/>). One group used Articulate software and their own website to create an interactive hypermedia record of their excavations, images and finds (<http://dkk.net.au/sifters/Sifters/Home.html>). Blog posts about the excavations could include images, videos and podcasts, as well as the usual mixture of factual and light-hearted written accounts. Not only does this lead to sharing of information, but the use of multimedia also provides students with the opportunity to develop their writing and presentation skills targeting different audiences.

**Cumulative Developments**

In keeping with the basic approach and to reinforce many general aspects of the nature of archaeological research, the students’ field notes and final assignments—the site reports on the work...
they carried out—are formally lodged in an archive and then made available to future generations of students. This reinforces the ethical responsibility of making data available to others and the long-term cumulative nature of research. The archive also, of course, allows future students to see what work has been done and what has been found, provides models of both good and bad practice, and highlights the challenges of integrating previous work into later research. Initial strong criticisms of past work before excavation begins are often later far more tempered when students self-consciously evaluate their own products.

A Field School on the Murray River

Neds Corner on the Murray River in northwest Vic. is the location of more traditional field training and provides the basis for the subject Practical Archaeology. It is one of the two subjects—along with a research thesis—that constitute the fourth (Honours) year in the Archaeology program at La Trobe. In this case, fieldwork takes place in the real world, and the information collected and reported by students feeds into a cumulative database which will be used to develop a cultural heritage management plan (CHMP) for this 30,000 ha, privately-owned property. The Trust for Nature (TFN) purchased Neds Corner in 2002 and is in the process of restoring and developing it within a conservation framework (Trust for Nature 2011). In 2008 La Trobe entered into a long-term agreement with the TFN, giving us access to the property and its facilities in return for assisting with plans for managing its Indigenous heritage over the next five years. The CHMP requires detailed maps of three study areas and their cultural remains in order for TFN to assess the impact of completed and proposed rabbit hole ripping, fencing, track maintenance and revegetation programs.

The current legislation in Vic. requires ‘Sponsors’ (i.e. those arranging for the preparation of a CHMP) to work with local Indigenous groups (specifically the particular ‘Registered Aboriginal Party’ for that area of the state) in setting out the framework and procedures to be followed by a ‘Heritage Adviser’ (i.e. archaeologist) employed to carry out fieldwork and prepare a management plan. However, as there is as yet no Registered Aboriginal Party for the Neds Corner region, TFN worked closely with the Heritage Services Branch of Aboriginal Affairs Victoria (AAV). Each year Indigenous community representatives are invited by the TFN to participate and interact with the La Trobe students.

The 10 day field school provides students with:
1. An opportunity to apply more general knowledge gained in undergraduate subjects, particularly in research design, archaeological methods, theory, stone artefact and faunal analyses, in field situations;
2. Further training in archaeological methods that assist in solving spatial and temporal archaeological questions;
3. Exposure to aspects of cultural heritage management following the recording systems of AAV;
4. The context for describing and recording sites and identifying present and future impacts and their mitigation; and,
5. An opportunity for teamwork, an essential aspect of all archaeological work, while providing a challenging and stimulating environment for independent problem solving.

At a more specific level, field training concentrates on:
1. Survey strategies and techniques;
2. Identification and definition of sites;
3. Use of survey equipment (maps, laser levels, GPS, tape and compass);
4. Use of AAV site recording forms;
5. Assessment of present and future impacts on sites and strategies for mitigation;
6. Preparation of plans and maps; and,
7. Preparation of reports.

In addition, aspects of archaeological and conservation ethics are constantly borne in mind with regard to Indigenous concerns, land-owner concerns and the quality of recording and reporting.

Organisation and Structure

At Neds Corner we are fortunate to have the use of the homestead, refurbished shearers’ quarters and outbuildings. Although not luxurious, this provides adequate resources for accommodation and catering, as well as space for studying, writing up journals and completing assignments—at least until the generator is turned off at 10 pm. Unlike the TARDIS, which required a significant initial investment, the work at Neds Corner needs annual funding, in the order of AUD$12,000 per season, to cover transport, accommodation, food and additional teaching support—that is, about AUD$650 per student per year.

Students work in teams of three to four people, with each person in turn taking primary responsibility for organising and directing operations. The data gathered are then shared within each team at Neds Corner and then become part of the cumulative database to be used in preparing the CHMP. For this reason there are clear constraints on students’ freedom to work outside some overall frameworks and procedures, and teaching staff need to monitor work to ensure quality control.

The eight days in the field (requiring an additional two days travel time) fall into three blocks.
1. Orientation and introduction, where students are taken on a tour of the property, have issues of health and safety explained to them, are shown sites of different kinds, and introduced to technical aspects of equipment and recording (Figures 8, 9 and 10);
2. Fieldwork, where students work in teams, taking turns to manage the process of work and documentation. Data collected during this time form the basis of the reports prepared in the third phase (Figures 11, 12 and 13); and,
3. Preparation of reports. Time is allocated during the field school to write up all aspects of the work, each student drawing on the data collected by their team alongside a more detailed account of the work and site for which they had primary responsibility. A key aspect of this work is that it has to be completed before the end of the field school, without technical aids and computer support. The requirement to prepare the plans, sections and associated descriptions and contextual analysis by hand forces students to come to terms with the material in a direct and intimate way.

Assignments

Assignments are designed to accommodate the aims of the CHMP. Survey transects are used to discover archaeological
sites in a structured way and to allow students to discuss their relationship to landforms and other features. This is followed by the detailed recording of a small, specific exposure. Within the transects, all individual artefacts are treated as the smallest analytical unit and the location of each is documented using a handheld GPS or dGPS when available. More detailed mapping is done using laser levels or EDMs. All sites are described using the AAV forms.

This part of the exercise requires students to address questions such as:

- What is your methodology and how is it justified?
- What types of sites are found along your transect?
- Where are they in relation to landforms?
- What are their contents?
- What condition are they in?
- Are there factors affecting their discovery and distribution?
- What are the limitations of your survey?

In the second phase an area of up to 20 x 20 m at a selected site found along a transect is surveyed in detail. The resulting maps must be accurate representations of the site’s spatial dimensions and contents. Sampling methods, the limitations of the data and how they were collected are discussed. Once again, each student in turn, acts as the ‘Director’ to create a site plan, draw a cross-section showing the topography of the area, create a contour map and plot cultural features within the area. All cultural features are recorded using offsets from a baseline, laser levels or a total station.

Assessment
The TARDIS and Neds Corner provide very different experiences. The former is constrained, with a tight focus on a particular, small ‘site’. The latter takes place on extensive flood plains south of the Murray River, with survey transects at times over 1 km in length and where the archaeological material is patchily distributed and exposed on subtly varied landforms and vegetation regimes. While the primary concern of the TARDIS is excavation and understanding of depositional sequence, site structure and formation processes, at Neds Corner it is an understanding of landscape and distribution patterns. The former is more purely academic; the latter also includes a broader concern with heritage management. Together they develop complementary skills, both in more formal aspects of archaeological practice and in particular the demands of working with, and relying on, others, which is always a key aspect of archaeological fieldwork.

One important aspect seen in both the TARDIS and at Neds Corner is the difference between participating in fieldwork and taking responsibility for carrying out the work. By the time they enrol in these subjects many students have worked in the field, both on research surveys and excavations conducted by members of staff and on heritage consultancies. It soon becomes clear to them that working under instruction, often on only one small part of a project, bears little relationship to taking responsibility for designing, implementing and reporting on fieldwork. Even the technical aspects of using a GPS, level or other technical equipment takes on a new and sharper meaning. In our experience, therefore, the underlying philosophy of learning by doing, with the freedom to make—and later recognise and
correct—mistakes is the most important dimension of our teaching in this aspect of archaeology.

Some practical considerations have adversely affected our TARDIS project, the principal one being the excessive number of students enrolled. Unfortunately, owing to specific university practices, we have been unable to limit enrolments in this intensive subject as we would have liked, putting a particular stress on the limited resources and area of the TARDIS. Changed policies will still take some time to be put into practice. Beyond that, there is every reason to see this approach as a valuable one, especially in providing the opportunity for students to confront the complex demands of designing, carrying out and writing up archaeological projects in a ‘safe’ environment.

The Neds Corner project builds on this foundation: here the work environment is less ‘safe’ and the information documented is significant in the real world. The basic teaching structure, which has now been in operation for four years, is clearly appreciated by students, who generally respond well to the pressures of limited field time and the need to focus on immediate completion. A critical aspect of running this subject, however, is cost. Apart from the time commitment of core academic staff, the employment of teaching assistants, transport, accommodation and food require substantial university funds.

One potential way forward is an expansion of collaborative relationships between university departments and archaeological consulting companies, such as the long-standing synergy between La Trobe and Godden Mackay Logan Heritage Consultants. This collaboration is best known from the Casselden Place excavations in 2002 (Mackay et al. 2006). Another example is the participation of La Trobe students, many of whom had completed the 2009 Approaches to Archaeological Research subject, in the Royal Exhibition Building Carlton Western Forecourt archaeological excavation (Godden Mackay Logan 2010). Such fieldwork opportunities are, by their commercial nature, self-funding; consulting companies secure the tender and take on the responsibilities for the project, while universities provide much of the skilled and volunteer labour-force. This project also provided opportunities for postgraduates to gain useful (and paid) employment experience, supervise the excavations and ensure the students nurtured the skills they had started to develop in the TARDIS. One ideal would be for La Trobe to employ a Project Officer to liaise with consulting companies, ensure standards in the use of volunteer labour and pro-actively tender for contracts which become, in effect, self-financing field schools. La Trobe policies and funding models, however, currently militate against such developments.

Conclusion

Industry expectations of work-ready archaeology graduates are at odds with recent academic emphases on the provision of generic skills for life-long learning rather than vocational training (Beck and Clarke 2008:2, Table 1). Ironically, the experiential self-learning style of teaching inherent in simulated excavations also conflicts with what many increasingly time-pressured students want (Colley 2004:198). These pressures from both ends of the archaeology student/graduate market should be resisted—both students and their prospective employers need to appreciate
that ‘learning to see’ archaeologically (Bradley 2003:155) is a long-term, gradual process built-up over years of fieldwork experience on a wide variety of sites and projects. Similarly, the debates over the deficiencies in past, and to a certain extent current, consulting archaeology in Australia (e.g. Connah 1998; Iacono 2006; Mackay and Karskens 1999) highlight the need for graduate archaeologists to be able to think critically, rather than merely do as instructed. Simulated excavations and structured field school experiences provide a starting point along that road.

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