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IMPRESSIONS OF THE UNITED STATES ARCHAEOLOGICAL SCENE :
IMPLICATIONS FOR NEW ZEALAND ARCHAEOLOGY IN THE 1980s

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This essay is based on impressions of the archaeological scene gained on a recent study trip to the United States sponsored by the Winston Churchill Memorial Trust in New Zealand. Although my travels in the U.S. were confined to the western states and Hawaii, I believe the observations are reasonably representative of the general situation there. They are based on discussions with a large number of archaeologists from the universities, museums, government agencies such as the Corps of Engineers, the National Park Service, the Water and Power Resources Division and the U.S. Forest Service, state archaeological agencies and private archaeological contractors.

The chief aim of my research was to examine the operation and methodology of the National Inundation Study (N.I.S.), a three year project (extended to five years) run by the Submerged Cultural Resources Unit, South West Region, National Park Service at Santa Fe, New Mexico. In 1976, concern over the ever increasing number of sites affected by reservoir construction became so great that funds were allocated through the Park Service for a special research programme to study the effects of freshwater inundation on cultural resources. In the past it has all too often been assumed that inundated sites are obliterated. U.S. research has shown that inundated sites, often far from being destroyed, are in fact preserved or 'placed in storage'. The relevance of such work to our situation is obvious; New Zealand is a 'water rich' country. For the foreseeable future there will be a continuing demand to build more hydro dams and raise lakes, which in turn will affect a large number of sites. The N.I.S. study involved many site management concerns which are of direct relevance to the work of the Trust and the Clutha archaeological project such as pre-inundation salvage strategies, the short and long term effects on sites of freshwater inundation, determining ways of administering sites which are under water and assessing methods of mitigating impacts to sites which will be flooded or survive in shoreline situations.

I do not propose, however, to discuss the freshwater inundation archaeology matters in this paper, but rather to describe

the wider archaeological scene in the U.S. All my findings will be elaborated in the forthcoming report to the Churchill Trust along with contact addresses and a full bibliography.

The other major objective of my work in the U.S. was to study the organisation and field operation of several archaeological projects involved in cultural resource management (CRM) but particularly those associated with sites that are threatened by man-induced inundation through development projects. In all instances I was assessing aspects of the projects for application in New Zealand.

The trip also afforded the opportunity to investigate other areas of U.S. archaeology which are potentially of use to the New Zealand Historic Places Trust, notably contract archaeology and the interpretation and management of sites for the public. I was also able to spend time on seven excavations, assess field and laboratory techniques and further my personal research interest on the archaeology of overseas Chinese.

The development of Cultural Resource Management

Over the past two decades archaeology world wide has been strongly influenced by method and theory forged in the U.S. New Zealand is no exception, although there is sometimes an appreciable time lag before new ideas are generally adopted here.

In 1973, the Trust's Senior Archaeologist, Jim McKinlay, visited the U.S. (also on a Churchill Fellowship) to investigate the organisation and administration of archaeological salvage programmes. His report (McKinlay, 1974) contained many insights into the future directions of the discipline. However, since that date, U.S. archaeology has undergone further, if not revolutionary changes.

Undoubtedly the most important innovation in recent years has been the rise and general acceptance of an archaeological ideology generally referred to as Cultural Resource Management. CRM is a conservation ethic; a development from the 'rescue' and 'salvage' philosophies current in the sixties and seventies. It involves an on-going concern for the management and preservation of sites, in part initiated by the passing of new laws requiring a previously unheard of degree of concern for the recording and protection of threatened sites. The foundation of the change was the passing of the National Environmental Policy Act (1969)

which promoted an environmental conservation policy that demanded consideration of the environmental (including cultural) effects of construction projects, and the promulgation of Executive Order 11597 (1971) which required Federal landholding agencies to inventory their land for sites that might qualify for the National Register of Historic Places.

Archaeological contracting

Almost overnight the new federal laws and further state legislation created a huge increase in the amount of archaeological work (particularly surveys) as private developers and government departments sought to fulfil their legal obligations. The existing archaeological institutions, the universities and museums, were not geared to handle such an influx. The result was that many of the companies involved in land modification hired their own archaeologists and private archaeological contracting companies began to flourish. At the same time the various government agencies began to employ small number of archaeologists. The agencies are now major employers of archaeologists in nearly every state, e.g. the U.S. Forest Service employs 100 archaeologists nationwide.

In recent years many of the universities have developed independent profit-producing resource management sections, essentially archaeological contracting businesses which compete with the private companies for the available work, of which there appeared to be little shortage (until the Reagan administration?).

Competitive bidding became an integral part of the contracting scene. Initially the proliferation of contracting caused huge problems of quality control and much of the archaeological work was of unacceptably low standards, but this situation seems to have improved considerably due to a number of factors. In the mid-seventies many U.S. archaeologists expressed public concern about the problem (reviewed in Schiffer and Gummerman, 1977), the competition was severe and the agencies were employing their own archaeologists to design and oversee the contracting companies' work. State Historic Preservation Officers (S.H.P.O.) were also appointed to review contract work and to assess whether sites should be included in the National Register. With about 70% of all archaeological work in the western states now being undertaken by contract, it is now a well established and influential part of U.S. archaeology.

Contract archaeology, as I see it, has both advantages and disadvantages. The major advantages to a contracting agency are that by putting work out to contract one staff archaeologist can supervise several different contracts, enabling a large number of separate field tasks to be undertaken, whilst the contracting agency need employ the minimum number of permanent staff (c.f. N.Z.H.P.T.). The contractors are also obligated to produce a survey report or undertake specific excavations and produce the associated reports within limited time periods.

Quality control is an on-going problem (different archaeologists hold varying views on what they consider adequate) and despite overseeing and specific instructions the quality of contract reports still seems to depend largely on the individuals or companies concerned. Other disadvantages of contracting are that there is a tendency for colleagues to be turned into competitors, and even small contract jobs are expensive for the contractee. This does not deter U.S. government departments, but is a source of some disenchantment for private developers. There is also the perennial problem of selecting the successful tender. In the past contracts frequently went to the lowest bidder, but now with archaeologists on the staff of most agencies there is an evaluation process to select the one which is "the best value for money" based on a set of assessment criteria.

Contracts are usually let by advertising and distributing on demand 'requests for proposals' (RFPs). These often voluminous detailed documents outline what the contracting agency wants and expects for a particular archaeological job, e.g. a survey. Contractors then submit their respective proposals (there is often considerable competition and the proposals are usually substantial documents too); the successful tenderer being expected to undertake the fieldwork, analysis and report production as outlined in their proposal. Many of the private archaeological contracting companies are specialised, for example, they might only do surveys or work on historic sites. There is also a considerable amount of subcontracting, often as a result of a company tendering for and gaining too many contracts.

One of the main problems related to contract archaeology in the U.S. is the exponentially expanding volume of archaeological reports produced by contractors which never attain wide distribution or recognition. This situation is a growing

problem in New Zealand too. The development of the so called 'grey literature', presents, not only difficulties in obtaining copies of many of these reports, but even knowing they exist in the first place. To alleviate this problem to some extent central report filing agencies have been established in the U.S. and regional overviews with up to date bibliographies are being produced for many areas. However, the real crux of the matter relates to the burgeoning proliferation of small run, contractor and agency publication series. Many of these series serve a useful role, particularly for largely descriptive data, but authors need to be constantly mindful of the fact that if both information and intellectual debate are to be universally disseminated and developed, then it is necessary to publish synthetic and analytical papers in the established and widely distributed academic journals.

In recent years, the Society of Professional Archaeologists (SOPA) has been formed. SOPA's mission is to promulgate professional standards which are recognized and accepted by peers, employers and the public alike. To achieve this end, the society has established various minimum qualification and experience requirements for those wishing to attain membership. SOPA now distributes an annual directory of members and their qualifications to its membership and to concerned state, federal and other interested parties. Despite its ideals, the society has been shunned by many academic archaeologists. Some see it as unnecessary and detrimental to the lobbying ability of the dominant archaeological groups - the American Anthropological Association (AAA) and the Society for American Archaeology (SAA). Its existence, however, is favoured by private contractors, (i.e. those not associated with archaeological institutions), who obviously accrue some professional status from membership.

A significant side effect from the rise of contract archaeology is that it is producing a generation of 'itinerant' archaeologists, usually senior or post graduate students who travel all over the United States as they obtain work on different contracts. Concomittant with this lateral movement a field hierarchy has developed ranging from general fieldworkers, through crew chiefs and site supervisors to principal investigators. Applicants for these positions appear to be ranked overwhelmingly on their academic qualifications rather than their field experience, which can lead to some interesting situations on-site. Principal investigators are frequently the senior partners in a contracting company. They may spend

very little time in the field, being primarily concerned with securing the contract in the first place and co-ordinating the production of the report.

Project archaeology

Having been involved in 'project archaeology' for the past 3½ years in New Zealand, I was particularly interested to see how U.S. archaeological projects were run with regard to funding, the quantity and quality of the archaeology and the types of sites.

Not surprisingly in a country the size of the U.S., there are several massive civil engineering projects in existence at any one time, employing full time archaeologists to head mitigation programmes. I was able to see first hand archaeological work on a number of these projects, notably the Dolores project in south-west Colorado (the \$4.8 million archaeological budget for this project is the largest in the U.S.), the Central Arizona project and the Melones dam project inland from San Francisco. The latter is one of the most controversial mitigation exercises in U.S. archaeological history, and has cost some \$2.8 U.S. million so far.

Unlike the situation in New Zealand, where there are no 'ground rules' as to how much money should be spent on archaeological mitigation, in the U.S. there is a government directive that up to a maximum of 1% of any federal projects total budget may be spent on work related to historic preservation (this includes archaeological mitigation) to counter the adverse effects of development projects. One percent can be a very large sum when one is referring to construction projects costing hundreds of millions of dollars, but as the construction impacts often affect vast areas and the mitigation work is largely undertaken by contract, the costs are also very high. Agencies, however, are not required to spend more than 1% and, in fact, can spend as little as they can get away with. What is needed is legislation regarding the minimum requirements and amounts to be spent on mitigation, not the maximum amounts.

It is now fairly standard practice for contracting agencies, notably the Corps of Engineers (equivalent to our Ministry of Works and Development), the Water and Power Resources Division (both of whom build dams); the U.S. Forest Service and the National Park Service (both of whom manage large tracts of

land) to employ their own archaeologists in each region affected by their activities. In practice, these archaeologists become contract managers. They design and manage archaeological contracts and do little or no field work themselves. The federal and state archaeological jobs are put up for competitive bidding - a common division of labour being separate contracts to undertake the surveys, the excavation of the prehistoric sites and the excavation of the historic sites. This fragmentation necessitates tight liaison between the various groups involved in any one project. Just how closely the research design guidelines are followed can depend entirely on the degree of compulsion enforced by the overseeing archaeologist.

Obviously there is some potential for the development of competitive bidding in New Zealand archaeology, but given the financial climate and the way archaeology is established here its evolution can be expected to be slow, and many of the problems of quality control that have arisen in the U.S. could be avoided. The Trust and, in future, government departments, are potentially the biggest employers of contract archaeologists (hired by competitive bidding) given present government staff ceilings.

Management and interpretation of archaeological-historic sites

I was impressed with the management of archaeological sites in the U.S. for public access and enlightenment, and consider that much more could be done in this area in New Zealand.

Perhaps at the forefront of site management work are the National Monuments maintained by the National Park Service. These are, in effect, locations which are too small to be National Parks but nonetheless have special attributes considered worth preserving; frequently they are historic or prehistoric sites. I visited several National Monuments and was impressed with the facilities and information provided for the public. One site, the Casa Grande in Arizona was established in 1893, the first such monument in the country. Today the entire adobe structure is covered with a huge metal canopy, considered essential for the long term preservation of the site.

There is considerable potential for the National Monument concept to be developed in New Zealand, but I would prefer to see such reserves under the jurisdiction of the Trust rather than the Department of Lands and Survey. Should the Lands Department develop an archaeological unit to administer the

equivalent of National Monuments in this country, a close co-operation must be established with the Trust on such matters as the selection of sites. Incidentally, many of the National Monuments in the U.S. recoup their operating costs by charging an admission fee.

Many of the States also appear to be vitally concerned with preserving and maintaining historic sites for the public. A favoured type of site selected for State funded restoration are parts of the early towns, e.g. Old Sacramento - the buildings in some instances being reconstructed on the site of the archaeologically uncovered foundations of the original structures. Another pertinent example for New Zealand is China Camp, an excavation and restoration project currently being undertaken by the State of California Park Service, on the site of a 19th century Chinese shrimp fishing village in San Francisco Bay. Considerable public funding has been spent in recent years on the complete reconstruction of early buildings. It has been found, that while archaeology can provide many undocumented details of early structures, for really effective public appreciation of that new information, something more tangible is necessary. One of the site types most favoured for reconstruction in the U.S. are early trading and military forts, e.g. Fort Vancouver in Vancouver, Washington. Such sites attract enormous numbers of visitors, their upkeep (but not the cost of the reconstruction) again being covered by admission charges. Typically the sites have associated museums or display centres.

I also observed notable open post-excavation archaeological displays, e.g. at the site of Buenaventura Mission in Ventura, California, and at the Salmon pueblo ruin near Bloomfield, New Mexico. Both these sites were preserved by the efforts of the archaeologists concerned (Dr Roberta Greenwood and Dr Cynthia Irwin-Williams respectively) who organised the local businessmen and councils into funding and supporting 'their own sites'. The sites have now become tourist attractions.

We should be making much more of the opportunities for public interpretation and management of many of our archaeological sites in New Zealand. Here, the post excavation maintenance or reconstruction of early sites from archaeological or documentary evidence is practically non-existent. The attraction of such exhibits is well proven in the U.S. and elsewhere. Although the establishment costs are formidable, so long as there is something interesting for the public to see they will pay for the privilege.

Field methodology, archaeological techniques and site recording

This trip also enabled me to see many aspects of field archaeology and analysis and assess their potential for application or development in New Zealand. I propose only to allude briefly to a pot-pourri of matters in this section, as they will be more fully discussed in the main report.

The growth and development of historic archaeology in the U.S. has been phenomenal over the last ten years. It now competes on an even basis with prehistoric archaeology. Many university departments and private companies work entirely within the historic sphere, or have a separate division dealing with this aspect. There has also been a considerable increase in ethno-historical studies, in fact, many U.S. archaeologists refer to themselves as ethno-historians.

Many archaeologists in the western states spoke rather disparagingly of radiocarbon dating, particularly as a technique for supporting contemporaneity of occupation. They have found, with specialised facilities readily available, that the accuracy and cost advantages of dendro-chronological, archaeomagnetic and obsidian hydration rim dating, makes radiocarbon dating very much a last resort. In the south-west, it is often only utilised now if a site or layer cannot be dated by some other means.

New Zealand archaeologists are still very much dependent on radiocarbon dating, despite its recognised limitations with regard to precise or absolute dating. These problems are compounded within the confines of the short New Zealand prehistoric time scale. If a better resolution of the timing of events in the prehistoric past in New Zealand is to be achieved, it will require all the dating resources at our disposal, such as the proven alternative techniques, as well as adopting new developments and improvements in radiocarbon dating technology.

Both archaeomagnetic and tree ring dating involve considerable time and costs in establishing the base data and facilities, but once these are operational it is a relatively easy matter to collect samples in the field. The results are more precise and the cost per date is considerably cheaper than radiocarbon dating. Archaeomagnetic samples can be collected in the field from any secure heated surface, e.g. the wall of an oven or hearth; features which are commonly found in New Zealand sites. Unfortunately, for tree ring dating, we do not

have the abundance of 'easily dated' conifers in prehistoric sites here, but the main problem is basically a lack of re-search into suitable species which might be found in New Zealand sites.

In the field several new techniques of remote sensing such as specialised photography, satellite photography, underground radar and magneto-meters are being used increasingly routinely to locate sites. I was particularly impressed with the use of underground radar for locating Indian sites in country where there are almost no visible surface features. Back-hoe trenching is used extensively for sectioning and defining the extent of large sites.

Generally American excavation techniques are similar to those used here, although the unit level method of excavating is still widely used where it doesn't have to be. Because time means money, contract archaeologists have speeded up many routine archaeological operations. Electric or petrol engined sieving machines are used frequently, and at one site on which I worked, much of the cataloguing and analysis of finds was carried out on site in two large semi-trailers.

Gas is also being used increasingly for delicate excavation operations. The gas (CO² because it is cheapest) is stored in the conventional pressure cylinders and conveyed to the work site by hoses. Here it is directed onto the objects to be uncovered through a fine adjustable nozzle. It is typically used to uncover burials, the gas being used to blow away the surrounding matrix.

Site recording systems in the U.S. are many and varied. The so-called National Register of Historic Sites, in fact only contains sites which are specifically nominated and accepted in to it. Within many States there are three or four different site recording systems maintained by different universities or agencies, occasionally necessitating multiple site numbers in reports. The disadvantages of such a set-up are obvious. Computerised site recording and data retrieval is being used extensively. I saw one system in operation at Washington State University at Pullman which was particularly effective with regard to multivariate site data presentation.

In recent years the native American people have expressed increasing concern about what happens to the remains of their ancestors. This has culminated in the passing of legislation

which now requires native American participation in all federal archaeological projects. This usually involves at least one Indian observer being present during the excavation of prehistoric sites and the employment of Indians on sites within Indian land. Whether a similar situation develops here remains to be seen. The impression I gained was that both Indians and archaeologists thought it was generally a useful development.

Field schools are still a large part of the U.S. archaeological scene although they have diminished in importance with the advent of contract archaeology. They usually involve classes in field method and theory, local prehistory and history, ecology and on-site training in all aspects of field work and artefact identification. The schools are advertised widely on posters in the anthropology departments, schools and museums and in the AAA field school guide. Summer field schools provide an excellent introduction to archaeology. They are something this country could well afford to develop because they introduce whole new groups of young people to archaeology, such as senior high school students and government department field workers, rather than just the limited input derived from the anthropology departments of the universities. Field schools also make possible long term excavation projects on major sites that would not otherwise be intensively investigated.

To conclude, the American archaeological scene has undergone considerable expansion and change over the past decade. In the light of recent political developments in the U.S. it can now be expected to stay relatively static (with regard to employment) and retrench considerably in some areas. However, the conservation ethic embodied in the ideology of cultural resource management will continue to develop - as it should. The state of archaeology in New Zealand, particularly with regard to CRM, appears to be about the state that U.S. archaeology was in 1973. By that, I'm not implying that we are eight years behind the times, on the contrary we have the advantage of being able to learn from the American experience and can anticipate the future changes in the archaeological establishment in New Zealand.

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