The business of archaeology:

A production and value added approach

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INTRODUCTION

With changing economic climates, justifying expenditure on archaeological activity is becoming increasingly difficult. This is especially so where taxpayer funds have been made available for the preservation of cultural resources. Fundamentally, archaeology needs to ask itself—‘what can archaeology do for the community’ to demonstrate the need for the public to invest in cultural resources. This problem has been identified in previous research (Smardz 1997, p. 103; Davis 1997, p. 85) where funding for archaeological practice competes for justification against other public utilities and services. To answer this is difficult, as the motivations for archaeological practice are largely driven by research objectives and requirements set out by legislation. Archaeological practice is often seen as benefiting archaeologist themselves, and its results are not easily integrated with other industries such as development (see McGill 1995).

There is a gap in archaeological methodologies and theories in regards to the application of financial and economic models to archaeological activity. As cultural resources are often used primarily for archaeological ends, practitioners rarely apply economic principles to their work to measure the economic and financial benefits that they produce for communities. This is because finding economic outcomes from archaeology are not part of its dominant epistemologies. Archaeology has long espoused the importance and value of cultural resources, thus it is important to develop outcomes that are valuable not only to archaeology but also the community. This thesis aims to explore the application of financial and economic models to cultural resources and to archaeological practice. While notions of value in archaeology have been previously researched (Carman 1995, pp. 19-30; Firth 1995, pp.51-67) they do not consider how that value can be transferred from archaeological practice to produce economic outcomes for communities. Archaeological excavation in itself is a destructive force on cultural resources (Dean et al. 1995, pp. 73-75) thus its outcomes need to be well justified. How can archaeological activity affect the value of cultural resources and how can that value be transferred to the community?

If archaeological practice is to produce perceivable economic benefits for a community through the products they create from cultural resources, then a process of production needs to be adopted. There has been no research which considers archaeology as an overall process of manufacturing, to which value added principles can be applied. Issues such as ‘quality’ (Total Quality Management) and ‘best practice’ (Brooke 1995, pp.119-133; Heath 1997, p. 70; Fowler 1982, p. 26) all
manufacturing terminology are referred to in archaeological text, yet there is not an holistic production model that may be applied to archaeological practice. There is literature on the creation of artefacts, for example (Drake 1996, p.101), however it does not indicate or address the issues of an overall production approach. By adopting a production model to archaeological practice, it is possible to see how archaeology affects the value of a cultural resource. As archaeological practice is the exertion of effort on cultural resources, the value of that effort can be measured by its outcomes or products. As products are designed for people, they have a measurable value to the community.

**METHODOLOGY**

This thesis constructs a production model, firstly by identifying different processes in the creation of archaeological outcomes or products. The process of archaeological activity is broken into three identifiable stages of production and considers workable parameters governing each stage. It also incorporates issues affecting the archaeologist in the production of archaeological outcomes (Firth 1995, p.56; Morris 1994, p.17) as well as the use value (Darvill 1995, p.44) of archaeological sites that can be used for communities. Each identified stage is an assumed stage in the manufacture of products, which my approach considers to be the outcomes of archaeology. It is to these products that notions of ‘quality’, ‘value-added’ and ‘best practice’ can be applied.

Archaeological principles and ethics are considered in the construction of this production model for archaeology.

The model moves beyond pure archaeological practice and theory as its application is focused on generating outcomes for the community, not necessarily on archaeological research aims and legislative requirements. The model can be applied to any thematic stream in archaeology (i.e. Historical, Indigenous, Maritime, etc) as well as having local, national and international implications.

By applying production models to archaeological activity, archaeological products can more easily integrated with the needs of other industries that deal with cultural resources such as development, recreation and tourism.

Data collected and applied to the model constructed in this paper is presented in section two of this thesis, which shows how some of the processes of archaeology can add value to a cultural resource and further transfer that value to benefit the local community in economic terms.
By applying the model constructed in this thesis it is possible to see how the results of archaeological activity can be integrated with other industries such as tourism and recreation to produce benefits for local communities.

Given the broad sphere of archaeological theory and methodology, and the limitations of this thesis in terms of time and volume, there are many concepts that are applicable to this model that require further research. In the case study Burra (section two), some assumptions have been made in relation to measuring the effects of tourism on a local economy, such as multiplier effects and displacement.

CHAPTER ONE

'A man who knows the price of everything and the value of nothing' Definition of a cynic. Oscar Wilde 1854 - 1900.

1.0 Value Added

Value added is important to archaeological practice as it is a means to measure the effort or the input that archaeology contributes to cultural resources.

A key component in determining the value of archaeological practice is the notion of value added that is applied to any manufacturing process.

There are a variety ways in which to define value added, it is fundamentally an accounting principle that considers the outcomes of business activities. In Britain and other parts of the world it is used as a basis for calculating taxation, referred to as VAT (Value Added Taxation). Value added can be defined as:

- the increase in market value resulting from the alteration in the form, location or availability of a product or service, excluding the cost of bought out materials or services.

In the simplest terms, the amount of value so added is measured by the difference between the dollar amount of the firm’s sales and its purchases from other firms’ (McLure & Ture 1972, p.71).

This can be further broken down into an accounting equation as defined by Cox(1979, p.1):

\[
\text{Sales} - \text{Purchases} = \text{Value Added}
\]
Value, as measured by the price paid for a product or service, is highly dependant on a number of different factors and is subject to fluctuations and variations. Issues such as the preferences of consumers, accessibility of goods and services and additional benefits that are added to the product, all affect both the value and price that is to be paid.

There are no pre-ordained market values for products or services, just as there are no universally established costs (Cox 1979, p.3).

Profit from business activities is not necessarily the primary focus of value added. Value added can be measured in terms of employment generated and in wages paid, in taxes paid to governments and financial contributions to the community. The application of the value added principle is just as important to non-profit organizations as it is to profit organizations.

It is important to consider archaeological activity as value adding for many different reasons. As mentioned in the introduction public expenditure on archaeological practice needs to be justified in terms of its value as an investment for the community. Archaeological practice, by processing cultural resources for the community should produce outcomes that contribute to the local economy. This is important for many communities who may be resource rich in terms of archaeological resources but are unable to use them to generate economic benefits, for example through tourism.

1.1 The Production Approach in Archaeology

As value added is an accounting principle one might assume that it is relevant only to businesses and not to archaeology. However archaeology can also be seen as a business in itself through the definition provided by Balme & Beck (1993, p. 62):

'Archaeology is an enterprise specifically concerned with creating the past by analyzing the material remains of previous societies'

'Enterprise' whilst it it refers to a motivation or undertaking can also mean a company or a business and 'creating the past' can be seen as a process of manufacture. To better illustrate a production model in archaeology how archaeology 'creates' is explored.

Martin (1981, p.19) defines the function of archaeology as:

'draw[ing] conclusions about past societies by discovering, interpreting and preserving the material evidence that they have left behind'.
Material evidence of past human societies can take many different forms, from changes in the natural environment, landscapes, built structures through to artefacts; any evidence that indicates past human activity at a location.

Martin's definition is useful as it identifies three main components to the function of archaeology. These can be used to outline the basic parameters of a production model:

1.1.1 'drawing conclusions' - can be considered as the outcomes of archaeological investigation which can be expressed as being a product of:

1.1.2 'discovering, interpreting and preserving' which essentially describes the process of archaeological activity using:

1.1.3 'material evidence' which can be perceived as being a resource that undergoes the process of archaeological investigation.

Within Martin's definition of the function of archaeology the three main parameters for a production approach are identified. The resource can be expressed as cultural or archaeological resources, the process encompassing the archaeological activity and the product as being conclusions in the form of an information or artefact product.

\[
\begin{align*}
\text{Resource} & + \text{ Process} & = \text{ Product} \\
\text{material evidence} & + \text{ archaeological activity} & = \text{ drawing conclusions}
\end{align*}
\]

These three stages represent the basic production model where resources are processed to create products. The following chapters will consider each of these three basic stages, applying to them an archaeological context.
CHAPTER TWO

Resource n. 1. capability, ingenuity 2. that to which one resorts for support 3. expedient - 
pl. 4. source of economic wealth 5. stock that can be drawn on 6. means of support

(Knight (ed), 1991 Collins Dictionary p. 263)

2.0 The Resource

The term resource can mean a range of different things as indicated in the above dictionary definition. However in the previous chapter 'resource' was identified as being material evidence from past societies. This material evidence is found in archaeological sites and is commonly referred to as a 'cultural resource'. An archaeological site can be defined as:

'a place where there is evidence of past human behavior' (Bahn 1992, p. 460).

A place may mean a dwelling, a meeting place, a township, a shipwreck or a landscape that has evidence of past human behavior. It usually represents a concentration of material remains of the way people lived (Dean et al 1992, p.28) and has a place in the social living pattern of their time. It relates to the way people during a given time in the past utilized a place. Each place represents one part of the overall cultural living pattern of a past society, as indicated in figure one. Culture One for example is represented by the material evidence left in a number of different locations- a,b,c, and d, all of which can provide an indication of the greater cultural system that once existed.

Figure One: Sites forming a larger social / settlement pattern over an area

Archaeological sites can constitute any of these locations and may be overlapped by different cultures. A site can also become important because of an event relevant to the culture or because of its religious or political significance.
This description may seem simplistic in terms of social and systems theories, however, the objective here is to identify a general definition as to what an archaeological resource is. Evidence of past human behavior can take many different forms and are essentially the remaining by-products of that human behavior. An archaeological site may be overlapped by different cultures at different times, which will result in different types of material culture. The resource incorporates natural environments that have a connection with past societies (Middleton 1994, p. 3).

2.1 Context

Context can be defined as:

'the situation or circumstances in which a particular item or group of items is found, or in which a particular event or group or series of events occurs'(Bahn 1992, p.11).

The ‘context’ of material found on an archaeological site will determine the kinds of information collected from the resource.

**Figure two:** *Stratified sequences on an archaeological site*

2.2 Culture

The most important thing about an archaeological site, is that it is evidence of past human behavior, or what might be referred to as culture. Deetz (1980) defines culture as:

'Socially transmitted rules for behavior, ways of thinking about and doing things'.

Looking for an etymological definition of 'culture' we find:

Culture n. - State of manners, taste and intellectual development of a time or place.

(Knight (ed), 1991 Collins Dictionary, p. 263)

CULT- is derived from the Latin Cultus- inhabit, cultivate, protect, honor

with worship
-URE is derived from the Latin suffix ura - denoting primarily action or process or the result of this. (Hoad (ed) 1986, Oxford, p.106, p.517)

'Archaeology seeks to learn about culture from the fragmentary remains of the products of human activity' (Deetz 1967, p.5). Using the English definition of culture, it can be said that culture is learned behavior that can be identified as being uniquely human. Culture is the way human beings cope with their environments, it is an adaptive system that has evolved over many centuries and developed into many different forms. One characteristic of culture is that it is patterned, where systems, manners and tastes can be identified. Culture is the main determinant in governing social behavior in any given society, and as societies evolve, devolve or become extinct, so too does their culture. Culture is highly perishable (Deetz, 1967, p.6).

The patterning found on archaeological sites through material evidence, will mirror the cultural pattern of the past society that once utilized a place.

"Pots, arrowheads, house floors and axes are the products of culture, not culture in themselves, but they are linked to culture in a systematic manner. It is the archaeologist's task to discover how cultural behavior is shown in its products" (Deetz 1967, p.7).

2.3 Resource destruction

Material resources from past societies preserved in a natural environment are highly perishable and are easily prone to destruction. Site destruction is caused by natural agents as well as human. Natural agents include the geomorphic process, changes in soil, impact of flora and fauna as well as other environmental processes of erosion (Nickens 1991, p.76) and is expressed in Appendix One in site appreciation and depreciation. Human interference with sites can be identified in a number of different ways from looting and vandalism to incidental destruction by land development (Nickens 1991, p.74). In these instances human interference on archaeological sites depreciates the value and usefulness of the cultural material found on the site as the outcomes generated are limited. On the opposite side, while archaeological excavation may destroy a site, the cultural material found on the site is used to produce a number of different outcomes and should focus on maximizing the value of the material evidence. The demarcation between appreciable site use and uses that depreciate a site is marked by legislation. Where incidental destruction of a site occurs during development, mitigation is
often required by legislation as in the example of the United Kingdom (McGill 1995, pp. 121-7). This can causes a conflict of interest between those who wish to develop the land and those who wish to preserve the archaeological resource.

Other forms of site destruction through human action include wanton vandalism and looting. Regional studies by the General Accounting Office of known sites on National Parks and Forest Service lands in the Southwest of the United States, estimated in 1987, that 32% of known sites had been damaged by looting and vandalism, with another 33% in an unknown condition and also potentially affected at the time of the study (Cultural resources: problems protecting and preserving federal archaeological resources 1987, p.22). Wanton vandalism carried out for the intrinsic purpose of destroying an archaeological site can take many forms. Rock art and other exposed sites are regularly defaced by graffiti, shooting, and structural remains frequently torn down or intentionally damaged (McAllister, 1991, p. 26). Four wheel drives and other vehicles are often deliberately driven over and through archaeological sites, permanently depreciating them or destroying them.

Looting archaeological material is more obvious in its motivations, which is driven by a market interest in the collection of archaeological artefacts. Treasure hunting, looting and souveniring take their toll on non renewable cultural resources and are activities that are commonly regarded as theft and appropriation. In return the outcomes produced from such activities results only in artefacts, which are likely to be less important due to the loss of context.

The big difference between treasure hunting / looting and archaeology is that archaeology is a controlled process that has guidelines for behavior in relation to dealing with sites and archaeological material, whereas treasure hunting recognizes no rules or guidelines.

2.4 Resource appreciation and depreciation

Archaeological sites, like most resources are non-renewable and very often human exposure to the resource will contribute to the on going erosion, if not destruction of a site. Thus guidelines for behavior in dealing with such material is important. The process is a one way process, once a site has been excavated and information collected, damage to the site can not be undone. Thus it is important to consider long term strategies for archaeological sites, in order to maximize their lifespans and their use values. Detailed and planned utilization of an archaeological site results in an
appreciation of the cultural material found at the site, and the quality of the process will be reflected
both in the variety of outcomes produced and the quality of those outcomes (refer to Appendix One).
The outcomes that archaeology produces from a site include artefacts, information on the site (the
conclusion drawn from investigation), conservation strategies and potential use values of the site for
stakeholders.
Failure to manage a site properly will result in its erosion if not destruction. An example of bad
management of an archaeological site might be shipwrecks near Rayong, south of Thailand’s Pattaya
Resort, where wrecks have been ‘totally picked over’ by tourists Asiaweek 1998, pp. 50-53 ). While
the wrecks add value to the holiday at the resort, their lifespans have been seriously impaired by the
lack of forward planning for the resource, resulting in destruction of the site, the loss of the resource
for stakeholders and the local community, as well as the depreciation of the site as a holiday
attraction.
These are important considerations as they affect the value of a resource to individuals, communities
and governments.

2.5 Legislation: a tool in appreciating / depreciating the value of a site

Carman (1995, p. 22) states that legislative protection gives archaeological material a publicly
recognized value. One of the outcomes of archaeological investigation is legislative protection for
sites, and this outcome is generated by the second stage of value added in the archaeological process,
interpreting. This stage of production is further explored in the following chapter, however it is
important to consider here, because the outcomes of interpretation contribute directly to legislative
protection for a site. Legislation has the potential to appreciate or depreciate the value of a cultural
resource in terms of the stakeholders.
It must also be kept in mind that legislative protection, once achieved for a site is not necessarily
permanent. Political and economic pressures are always challenging the legal protection of sites and
there have been many examples where legislative protection for sites has been overturned or repealed
(Spearritt 1991, p.33-45) and the recent actions of the Australian Federal Government in ignoring
UNESCO’s heritage listing of Kakadu National Park with the opening of a uranium mine.

2.6 Stakeholders
In many cases there may be more than one stakeholder of site, and is the interests of the stakeholders that needs to be considered if legislative protection for those resources are to be implemented. A distinction needs to be drawn between the owners of a site and the custodians of the cultural resources within the site. While an individual, corporate, government or community body may own the physical parameters of a site, the cultural material found within the site may belong to someone else. Many examples of this exist in Australia, where many private land owners or lease holders posses a site, yet the material within the site may be considered important and belonging to an Indigenous community or group. This situation can lead to a conflict of interests between stakeholders, as with the example of the Hindmarsh Island bridge in South Australia (Thomason, D. 1998, pers. comm. April 29). While developers owned the physical parameters of the land, cultural material on the site is owned by an the Ngarrindjeri people. Legislation favouring the development would add value to the site for the developers but would result in a situation of devaluation of the site for the Aboriginal community who are the custodians of the archaeological material on the site. And vice versa, where legislation favours the interests of the Indigenous community above that of the developer's, a situation of value added is created from the perspective of the custodians of the resources on the site and a situation of devaluation of the site for the bridge developers.

It should be pointed out that development also has the potential to add value to cultural resources in a number of different ways, for example, finding alternative uses for sites that are compatible with conservation objectives (See Melbourne Central case study chapter five), or by mitigating the destructive effects of construction on sites by using archaeological investigation and allocating funds for preservation. Finding a balance between stakeholders is important and can be difficult. However, understanding and recognizing this problem is an important part in identifying strategies that accommodate the interests of all stakeholders.

In considering legislative protection for a site, the archaeologist needs to consider and liaise with all stakeholders of a site, whether they be one or many, in order to achieve an appreciation of the site through the legislative process. Failing proper consultation and liaison, the reverse may occur, where a site is devalued and depreciated as opposed to value added and appreciated from the perspective of the stakeholders.

A recent example of such a situation (p.8), where a property owner in Adelaide complained of not being informed that his building, which was built last century had been heritage listed on the State
Heritage Register. While the State Heritage Branch (SHB) had consulted with the businesses who leased the premises and all agreed that a heritage listing would enhance the value of where their businesses operated from, SHB had failed to consult the property owner. As a result, the property owner claimed the site had been devalued, as the listing required the satisfaction of a number of different criteria before the owner could undertake any form or alterations or development to the property. In this case, the legislation has acted to exclude the interests of one of the stakeholders of the site causing devaluation and depreciation. To produce results that appreciate the value of the site and its cultural resources all stakeholders need to benefit.

CHAPTER THREE

"Life without industry is guilt, and industry without art is brutality" 23 Feb 1870, John Ruskin 1819-1900

3.0 The Process

The process of archaeology is the central feature of the production model and the different stages involved in creating archaeological products have been identified by Martin (1981, p. 19) as 'discovering, interpreting and preserving'. Each of these stages in the process is a level in value added to the cultural resource and this chapter will consider each of the stages of discovering, interpreting and preserving.

All controlled processes require parameters for behavior, rules and benchmarks which are used to guide the process along. In archaeology, Petrie (1853-1942) set out four standard principles for archaeological investigation which fit into this production model;

1. that care must be taken of the monuments being excavated;
2. that special attention must be paid to the collection and description of everything that is found;
3. that detailed and accurate surveys should be undertaken together with careful planning;
4. that all information should be published as quickly as possible. (McGill 1995, p. 4)
Petrie's principles are clear and easy to adopt and should constitute the principles of any production model applied to archaeological practice. Another useful tool that provides easy and established guidelines in the workings of a production model is the Burra Charter, especially in the second and third stages of the process.

### 3.1 The Burra Charter

The International Council on Monuments and Sites (ICOMOS), an extension of the United Nations Educational, Scientific and Cultural Organization (UNESCO), addresses many of the issues regarding the handling of archaeological and cultural resources. The ICOMOS standards in the Venice Charter was adapted and adopted in Australia in August 1979 and was called the Burra Charter, named after the historic township where the agreement was signed. The Burra Charter is an independent set of guidelines that have been widely accepted as the desired standards of behavior in relation to cultural resources by professional heritage and conservation organizations. The aims set out in the Charter are appropriate guidelines for any production model designed for archaeology and can be summarized (Marquis-Kyle & Walker 1992, p.15) as:

- **3.1.1** To care for culturally significant fabric and other significant attributes
- **3.1.2** To care for the place's settings
- **3.1.3** To provide an appropriate use
- **3.1.4** To provide security

These are important considerations for any production model dealing with cultural resources and identifies some of the desired outcomes that archaeological practice should generate from a site. Furthermore, The Burra Charter has a logical order of decision making which is relevant in the second and third stages of this production.

The Burra Charter is a useful tool that is incorporated into the production model constructed in this thesis and some of its components are explored.

Adopting Petrie's principles and the guidelines of the Burra Charter a clear distinction can be drawn between archaeological activity and non-archaeological activity on a site, one is a controlled process that has governing principles and ethics, and the other has few, if any controls or standards.
3.2 Discovering: The 1st stage of Production and Value Added

By discovering the resource, the archaeologist defines its physical parameters, the areas of importance, making distinctions between a plot of land that is important and a section that is not. This is an important stage in the value added process, as it identifies the area of core concern, making it distinct from its surroundings.

This stage of discovering requires the production of a number of outcomes which include:

3.2.1 Examination of the archive, involves examining historical records, aerial photographs and liaison with stakeholders.

3.2.2 Preparation of preliminary findings from examination of archives.

3.2.3 Non intrusive site investigation, which includes such activities as remote sensing, pre-disturbance surveying and soil sampling. It also includes an assessment of the natural environment, the landscape, and the built environment found on the site. There are many different methodologies applied in this process.

3.2.4 Compilation of evaluation report, which are the results of the non intrusive site investigation. This is an information product. (McGill 1995, p.33)

Once a site has been selected, it can then be recorded on a database for future reference.

By discovering a site, the archaeologist surveys it to ascertain its location and dimensions and the data is then recorded within established record systems for future reference (Baker 1993, p.24). This is an important stage in the production of archaeological outcomes. Immediate outcomes or products generated from this first stage of value added include an inventory database giving a measure of a regions cultural resources. This is important for local communities who become aware of the cultural resources that they have at their disposal. Furthermore, for the purposes of archaeological research, known sites will have relevance to other sites over an area, as they may be part of a larger cultural system during a given time in the past. Figure three below shows that 'discovering' a site is the first stage of value added to the site. It is the first stage in the manufacture of outcomes from archaeological resources.
3.3 Interpreting: The 2nd stage of Production and Value Added

According to Martin (1981, p.19) interpreting constitutes a part of the function of archaeology and represents the second stage of manufacture and value added.

At this production stage two products are manufactured, information and artefacts. The information product processed at this stage is the direct result of considering excavated artefacts, and thus is different to the information produced from 'discovering'.

3.3.1 Processing Artefacts

There are currently many different methodologies available on the classification and processing of artefacts (Deetz 1980, pp. 46-61) and the example below figure four (Joukowsky 1980, p.288).
3.3.2 Information Production

The Burra Charter is a useful tool in this stage of production as it provides clear guidelines and definitions in determining the 'cultural significance' of a site. Legislative definitions of 'cultural significance' may be constructed independently from those set out in the Burra Charter, however the Charter provides a universal standard of definitions that can be applied to legislation. It also standardizes some of the concepts of value that arise from the interpretation of a site.

Firstly, the material evidence found on a site is interpreted by considering its context. This stage of value added creates a 'cultural value' for the site, evidenced in the information product generated from the site which provides an explanation of the site's 'cultural value'. In addition, artefacts may also be created through excavation and the interpretation of context. Information products from this stage of production include video documentaries, publications, educational packs, interpretative information for tourism and recreation, etc. The range of potential products produced from this stage of archaeological practice are unlimited.
The second product or outcome generated from this stage of production is the determination of 'cultural significance', which can then be applied to achieve legislative protection for the site. Without the coverage and protection afforded by legislation, the cultural resource is open to any form of land use, erosion and destruction.

As in figure five, 'cultural significance' under the Burra Charter is divided into four main categories; aesthetic, scientific, historic and social significance (Marquis-Kyle & Walker 1992, pp. 21-23). Each category has a clear explanation and definition of each of its categories and sites can be classified under these subheadings for cultural significance.
Some sites may overlap between aesthetic, scientific, historical and social in their significance making them more valuable as cultural resources.

The importance of maintaining consistency in determining 'cultural significance' is essential if sites are to be valued appropriately. The Burra Charter is a tool that provides consistency in interpreting cultural significance and if it is adopted within a production model as the established process by which cultural significance can be determined, then variations of interpretation can be reduced, maintaining a standard or quality in the interpretation. This is important for the site when it is considered or weighed up against other sites that have undergone this second stage of archaeological activity. Once a site's 'cultural significance' has been determined, then depending on the desires of the stakeholders, it can be given protection under state, national and or international legislation. As some archaeological sites have little surface material, excavation may be required to further aid interpreting 'cultural significance'.

3.4 Preserving: 3rd stage of Value Added

By collecting and gathering information about a site the archaeologist actively contributes to the preservation of the site. Preservation of a site is an outcome and a stage of production and value added.

There are many different meanings within archaeology attached to preservation and Hodder (1993, p.17) presents a number of them along a continuum, figure six, from conservation requiring the management of what can be preserved, restoration to restoring things as they once were, reconstruction requiring further interpretation, to recreation, trying to turn the 'then into now'.

**Figure six:** Different connections and meanings to preservation across archaeology

- **Conservation:** manage what can be preserved
- **Restoration:** replace the past to 'as it was'
- **Reconstruction:** interpretation of entire cultural processes
- **Re-creation:** reliving the past, creating the 'then' into 'now'

*adapted from Hodder, 1993, 'changing configurations'*
Each of these different meanings attached to preservation will result in different strategies and policies produced by the archaeologist. For example 'conservation' from Hodder's definition above will focus primarily on 'what can be preserved' and the results of archaeological investigation will create policies and strategies for conservation with this focus. Whereas 'restoration' presents different anticipated outcomes from preservation, and the information produced by archaeological activity will provide information on how best to replace and restore a site. Given all of these different meanings associated with 'preservation' it is important that the notion of preservation required for a site by stakeholders is clearly defined. As expressed earlier, one of the main aims that the Burra Charter brings to this production model is finding 'appropriate uses' for sites. As found in previous research, the best way to preserve cultural resources is to find adaptive re-uses for them (Isar 1986, p. 28; Seragelin 1986, p.45; Dowdy 1996, p.55).

3.4.1 Value and use value

Archaeological sites can have a range of different values. Darvill (1995, p.44) identifies three main value systems for archaeological sites;

i) Option value- The value of preserving the site as it is. Leaving it for future excavation when methods of analysis are more advanced. This may be considered in light of scientific or archaeological research, where something is preserved for future analysis. It can also be considered in other terms of use, where conditions are not right to use the resource immediately and may be protected for future use.

ii) Existence value- The mere fact that the site exists and knowledge of its existence maybe considered to be very important. Such examples include people making donations to Wildlife funds or conservation funds without ever experiencing or seeing the outcomes of their donations. Just knowing that they are helping in the preservation of whales or forests somewhere in the world justifies their contribution.

iii) Use value- This is one of the most common applications of value to archaeological sites, both natural and built. This is important in the production model, as finding appropriate uses
for sites contributes to their future preservation. By use value, Darvill (1995, pp. 44-46) identifies eight categories in which archaeological sites are used, these are outlined below.

a. Scientific research - The fact that archaeology uses scientific methods in collecting and interpreting data, scientific research of all kinds commonly use data collected through archaeology. The data may relate to organic or inorganic material and dating methods such as thermo-luminescence and radiocarbon used in the archaeological process are implicitly scientific and have functions both within archaeology and within science.

b. Archaeological research - is perhaps one of the most obvious values for any archaeological site, its contribution to further archaeological research. An archaeological site can add value through the information extracted from it to improve current records of knowledge about the past.

c. Education - archaeological sites have the potential to play a considerable role in both school and adult education curriculums. It is also an area where there is great potential for archaeological products. Sites may be used to teach excavation methodology to students, or combined with archaeological products sites can be used to further understand the past through formal and informal education.

d. Symbolic representation - archaeological sites can have symbolic values, such as religious sites or places of pilgrimage, (ie, The black stone of Mecca, Mount Fuji, etc), or may come to symbolize certain persons, events or ideals. They also include historical sites such as the World War One battlefields of Ypres which are visited by some 70,000 tourist early year and mark the symbolic human sacrifice of war (Sunday Mail, 15/11/98). Symbolic representation that sites evoke in the public imagination are commonly used in the commercial environment to sell products that may not necessarily have anything to do with archaeology. Some commercial organizations contributes sponsorship to preserving and promoting archaeological sites of symbolic value to enhance the public perception of the organization and its produces.
e. Social solidarity and integration - An archaeological site and the material produced from archaeological sites can be used to bolster national identity and social solidarity. There are many examples where archaeology has been used to service the interests of the state and its outcomes used as propaganda for nationalist ends (Fabiao 1996, pp. 90-107; Arnold 1990, pp. 464-478).

f. Legitimation of action - The Mabo decision of 1992 has established a precedent in legislation for indigenous land claims in Australia. Here archaeological information can be used to legitimate an indigenous land claim. Archaeology has the potential to produce outcomes for indigenous communities in terms of access to places that are important to their community and has resulted in outcomes such as the 'Wik decision'.

g. Monetary economic gain - There are a number of different ways in which archaeology can be used for economic gain, some legitimate and others not. Some of the legitimate activities include the selling of publications, documentaries about archaeological sites and activities, guided tours of excavation sites, etc. These can be important considerations for local economies where the past can be seen to contribute to the present and the future of a community. Illegitimate activities on the other hand include souveniring, appropriation and looting from archaeological sites.

h. Creative arts - artists, writers, poets, photographers, architects draw ideas from archaeological monuments and objects to influence their own interpretations of the world, creating visual, literary or oral images. These are products in themselves which can be enhance by the results of archaeological inquiry.

i. Recreation and Tourism - as leisure time increases in post-industrial societies, there is a growing demand for cultural tourism and recreational products. For example, American heritage in the United States is visited by some 300 million people each year (Boniface & Fowler 1993, p.20). In addition, individual interest in archaeological artefacts can also be considered as recreational and includes antiquarians and private collectors.
3.5 Using the Burra Charter for preservation

As finding appropriate uses for a site is one of the aims of the Burra Charter, and once the nature of preservation has been identified, the formulation of outcomes or products from this stage can be determined. Once a site's use value has been determined, preservation for the site requires attention to a number of different factors and this largely depends on what changes or processes need to be adopted in order to transform the site into a useable resource.

The Burra Charter has a number of standard criteria and classifications for preserving a site and these represent the guidelines that protect the integrity of the site's cultural significance (Marquis-Kyle & Walker 1992, pp. 21-23). The strategies and policies identified in the preservation stage of the archaeological process require guidelines as to how those ends will be achieved. Under these classifications activities that impact the site need to be considered before they can be approved.

Figure seven provides a brief explanation of the terms that need to be considered. They include conservation, preservation, maintenance, reconstruction, restoration and adaptation, factors that will ultimately affect the condition of a site's cultural significance.

**Figure seven:** 3rd stage of production - preserving

- **Conservation:** all of the processes of looking after a place so as to retain its cultural significance.
- **Preservation:** maintaining the fabric of a place in its existing state and retarding deterioration.
- **Maintenance:** continuous protective care of the fabric and is to be distinguished from repair.
- **Reconstruction:** returning a place as nearly as possible to a known earlier state and is distinguished by the introduction of materials into the fabric.
- **Restoration:** returning the existing fabric of a place to a known earlier state by removing accretions or by reassembling existing components without the introduction of new material.
- **Adaptation:** modifying a place to suit proposed compatible uses.
The Burra Charter provides a standardized system in the preservation of archaeological resources that can be applied across the board. It outlines minimum considerations for actions that will affect a site, with the objective of retaining its cultural significance. By applying its guidelines, preservation and conservation of archaeological resources becomes a standardized process through which issues such as quality of the process can be maintained and measured.

3.6 Context

Other influences outside of the archaeological resource that affect the archaeological process in this production model also need to be considered. Other influences can be defined as context as described by Firth (1995, p. 56) and take into consideration 'who' is using or applying this production model. Context in this case, refers both to the external and individual factors that affect the archaeologist in the completion of their work (Firth 1995, p. 56).

In the process of discovering, interpreting and preserving many different decisions have to be made and the motivation for such decisions cannot be assumed to be coherent, consistent or compatible (Firth, A. 1997, p.56). Here context is formed by a number of different factors:

a. Type of material discovered- refers to the site, to the type of material found, its physical state, its rarity and costs of preservation and conservation. It also encompasses the immediate environment of the site, its locality, and threats to the site, through both human and natural agents. This can also be influenced by other sites in a locality, a region or a country, that may have the same significance, however different states of natural preservation. It represents the immediate conditions of the site, the physical and logistical difficulties in applying archaeological practice to the site. For example underwater sites present different logistical problems than land base sites that require archaeological investigation.

b. Research objective- This is perhaps the most important aspect of context that influences the decision making process on an archaeological site. Depending on the objective of the research, certain aspects of the site will be given more focus that others. The research objective represents the purpose of the archaeological activity and the interests of those who have a stake in the research that is being conducted. Furthermore, research objectives can represent the desired future
use of the cultural resource by stakeholders, it is to these established objectives that the archaeologist works towards. Finding a use value for a site may also constitute an objective set out by stakeholders.

c. **working environment**—refers to the environment of the archaeologist, the kinds of networks and resources the archaeologist can call on. It reflects the working conditions of the archaeologist and the kinds of organizations that he/she interacts with in order to complete the research objective. Here the impact of ‘institutionalization’ can be considered, the kinds of management structures and organizational realities that affect the individual’s capacity to engage in archaeological practice. There are many different institutions that deal with archaeological information, and artefacts, such as museums, universities and other heritage organizations, all of which have their own structures and ways of doing things (Hutton 1994, p. 67, Streeten 1994, p. 75, Baldwin 1994, p. 104).

It may also represent given time frames which the archaeologist is required to work within, one such example is rescue archaeology, where the archaeologist has narrow time frames within which to complete his/her work.

The environment can also represent the overall legislative and political climate of archaeology in a city, a state or a nation, the sphere of resources that the individual draws upon to achieve the research objective.

d. **personal experience**—constitutes the personal beliefs and perceptions of the archaeologist. It considers the platform from which the individual views the site and the culture under study; the degree to which the archaeologist is able to maintain objectivity in producing desired outcomes. It also affects the individual’s preferred method and approach in achieving research objectives and represents the particular characteristics and skills that the archaeologist as an individual brings into the work (Morris 1994, p.17).

These considerations referred to as context, as indicated in figure eight, along with proposed use values for a site affect the production process of transforming an otherwise hidden and unusable cultural resource into a resource that can be used by the community. Variations in the production
approach will largely be determined by context, as the production model present in this thesis has adopted guidelines to maintain some standardization and consistency.

![Factors affecting the process of archaeology](image)

3.7 Packaging the Production Process

Having identified the different stages in the production process of archaeological activity as discovering, interpreting and preserving, along with factors affecting the process such as context, it is important to consider how all of these can be brought together into archaeological practice. While the production model presented identifies the process, it has not identified some of the skills required in conducting the process and achieving its objectives. Darvill (1993, p.169) when considering British archaeology suggests that there is a growing tendency for archaeologists to work in multi-disciplinary teams and the nature of their work has been described as including contracting, curating the resource, consultancy, presentation and display, academic research or a combination of these. Important features within these tasks and the skills needed to complete them have identified by Darvill (1993, pp.170-175) below, and they all bear relevance in both the application and use of a production model.

3.7.1 Project planning

Skills required in project planning include accounting and financial management (forecast budgets), communication skills in liaising with stakeholders and legislative bodies (project briefs, specifications, etc), as well as strategies in competitive tendering (marketing).
3.7.2 Fieldwork

Skills in data collection (archival & on site), site identification, human resource management (Total quality management) and logistics (allocation of resources), as well as knowledge in the use of recording equipment (surveying, photography, etc).

3.7.3 Assessment and dissemination

Communication skills in the consultation of specialists (ie scientific, etc) design and dissemination of conclusions drawn from previous research and fieldwork. This is represented by the final the product and involves such issues as product design, features, packaging, service and quality.

While this is by no means a comprehensive description of the many skills required in archaeological practice, it does however present some fundamental skills required in the application of a production model to archaeological practice.

CHAPTER FOUR

Product- The features of the item offered and the benefits, both tangible and intangible, that the consumer receives from it. Includes, goods, services, and ideas (Assael 1990, p. 812).

4.0 The end result of production

The most important component of the production process is its end result, the product. Archaeological outcomes are rarely perceived as products as its outcomes tend to focus on archaeological ends or satisfying the requirements set out by heritage legislation. From the definition of a product above, we find that consumers receive benefits from products, leading to the presumption that products are designed for people. This is important for archaeological practice as it needs to focus on generating benefits for people and communities. These benefits are transmitted to people through products. Archaeological activity from a production perspective produces information, process and artefact products (refer Appendix II).
4.1 Information Products

Information: Data that is processed into a format useful to people (Trainor & Krasnewich 1996, p.626)

Martin (1981, p.19) identifies the outcomes of archaeology as 'drawing conclusions' about the past. This can be identified as the 'product' of archaeological practice. This is line with Petrie's fourth principle for archaeology which is to publish conclusions as quickly as possible. One of the current problems with archaeological products is that they are specifically designed and motivated by research objectives or for legislative requirements and are often beyond the comprehension of the general public. This is because they are not necessarily designed for public consumption. By 'creating the past', as identified by Balme & Beck (1993, p.62), archaeological practice has the potential to make a great contribution to both local communities and to the general public at large.

The fact that most results of archaeological practice are not designed for public consumption, leaves the dissemination of archaeological results in the hands of journalist and popular writers as shown by Hamilton (1991, pp. 198-206). The argument presented by Hamilton which focuses on the Daily Telegraph Mirror which published a weekly history feature for over forty years, is that even though such material was written by relative amateurs in the realm of history, it was considered as 'fact' by the general public who consumed the information. Public perceptions of the past were not generated by careful and detailed research, but rather research that understood its market and was conducted within the span of a week. This example highlights a major problem for archaeological practice, as the products that it produces are not necessarily disseminated to the wider public. This has important implications as one of the focuses of archaeology is to generate a greater awareness and appreciation for sites of cultural significance. If archaeological products are not designed for people and are not properly disseminated to the public, then the important message of preserving cultural resources does not get out to the wider public.

Archaeology has a key role to play in generating and promoting the preservation of sites in a number of different ways, including identifying adaptive re-uses for sites. If archaeological resources are to be preserved both for archaeology itself and the general public, then greater awareness of preservation needs to reach the public.
The types of information products that can be generated from archaeological practice are only limited by technology and the imagination and resourcefulness of the archaeologist. They may include video documentaries, publications, webpage information, interpretive signage, ideas and concepts that can be incorporated into other commercial products. The notion of designing archaeological products for developers and commercial organizations, who may use those products to sell their own products, not necessarily related archaeology may seem an inappropriate use of cultural resources to some. However, the opportunities that commercial organizations can bring in terms of capital investment and their potential for the dissemination of information should not be overlooked. This is especially so were information about the significance of the past and the importance of its preservation can be emphasized.

4.2 Databases

Data: Facts, figures and images (Trainor & Krasnewich 1996, p.618)

The information products of archaeological investigation are stored for future reference in databases. An archaeological database is any system that collects the products of archaeological investigation. There are a number of different models to structuring databases (Trainor & Krasnewich 1996, p.330), and these largely depend on how they are used and who they are to serve. Models such as Networks, hypermedia, hierarchical and relational can be used to store a broad range of information, from geographic information systems positions (LeBlanc 1996, p.24) to site conditions and material found.

Many sites are recorded on databases that have been established through the legislative process, resulting in the formation of heritage registers applied across a number of different tiers, differentiated by international, national, state and local boundaries.

Other databases include museum repositories, university departments and libraries as well as private collections. The type of information about a site on any of these databases can vary enormously from database to database, and largely relies on how that information was collected and organized. Thus it is important to standardize ways in which data is produced from archaeological sites, to ensure some compatibility between conclusions produced from one site and those produced from another. This is
an important consideration for archaeology in considering archaeological practice from a production perspective.

Archaeological outcomes generated by the legislative process are stored on databases sometimes referred to as registers. These registers and tiers can be broken down into a number of different tiers:

i) First Tier: International (Global) coverage
   Administer: UNESCO
   Database: ICOMOS Register

ii) Second Tier: National coverage
    Law: Australian Heritage Commission Act 1975
    Administer: Heritage Commission
    Database: National Estate Register

iii) Third Tier: State coverage
     Law: South Australian Heritage Act 1978
     Administer: State Heritage Branch
     Database: State Heritage Register

iv) Fourth Tier: Local coverage
    This Tier is yet to be developed in S.A.
    However in England, it represents some 46 counties with databases of some 302,000 recorded sites & monuments (Fraser 1993, p. 24).

4.2.1 Users of archaeological databases

There are a number of different users of archaeological databases, as indicated in figure nine.

Immediate users of the British database fall into three main categories as identified by (Fraser, 1993:26): conservationists, researchers and educationalists.
Conservationists include inspectors of monuments employed by heritage organizations, local planning and development agencies, and other organizations concerned with development. The objectives of this group is to collect and interpret available archaeological information to assist these organizations in the long term planning and decision-making process in regards to land usage.

Researchers users of the archaeological database include university surveyors and excavators, lecturers who explore the context of their specific studies.

Educationalist users forms the largest category which includes the full spectrum of formal educational institutions, as well as informal education through interest groups. They include tour operators and heritage organizations in the development of tourism products.

These three groups of users can be seen to initiate a new process, a series of new stages in the development of information products and services. They can each be identified as being value added.
processes in their own right, as they develop new products from archaeological outcomes which are then distributed to target consumers.

4.3 Artefacts

Artefact. Also arte-, 1821 [f. arti-, comb. f. L. ars, art-... + factus, pa.ppl. facere make]. An artificial product.

Shorter Oxford Dictionary on Historical Principles

Drake (1994, p.101) defines artefacts in a wider scope than the dictionary meaning given above; as being 'anything constructed or selected and hence given meaning by human choice'. This definition can be seen to cover the scope of all human manufactured goods, as well as anything that maybe found naturally, that has been deliberately 'selected'. Archaeological practice identifies and attaches a meaning to material culture. This relies on the context of how, where, and in relation to what the material evidence is found, and as archaeologists deal in interpreting context, they directly impact on the creation of artefacts. Some might argue for a blanket approach, where every piece of material evidence is an artefact, however, in the process of interpretation some 'artefacts' are more important than other 'artefacts'. This is because some material evidence can better transmit ideas and values of past cultures better others, and thus are more important as artefacts Drake (1994, p.103). Artefacts can comprise of metal, stone, organic materials, ceramic, glass, plastic and other synthetic materials that may have been used by past societies for any number of reasons. Thus in 'creating the past' the archaeologist produces artefacts from material evidence.

4.3.1 Condition of Artefacts

Preservation of artefacts is also an important issue in archaeological practice and the different meanings attached to preservation as identified by Hodder (1993, p.17) are just as applicable to archaeological sites as they are to artefacts. However, there are a number of problems in finding appropriate use values for artefacts.

There are a range different types of artefacts that are presently held in museums for public display, and are usually constituted by examples of material culture that maybe considered high-status social objects, or objects of great rarity or uniqueness which in themselves may be easily identified and
interpreted. This leaves a great underrepresentation for the more common pieces of material culture that have been found from past societies.

Artefacts that are in a state of poor preservation that survive exposure to excavation may be re-buried on the site or set aside for storage.

4.3.2 Storage

Most organizations that practice archaeology will have storage facilities for artefacts. As shortage capacities are finite and artefacts accumulate, there is a growing need to find use values for artefacts.

4.3.3 Other stages of value added

Material evidence from the past generates a consumer interest, especially so in antiques and collectibles. A new stage of value added occurs where antique dealers and valuers further interpret artefacts to produce value added products. For example, an armchair found in a tip was sold at auction for $17,000 in Bendigo 1988. The chair was constructed from a combination of packing case pine, redgum and blackwood and was made during the 1930s (Winkworth 1991, pp. 117-129).

4.4 Quality

Quality: n. 1. attribute, characteristic, property 2. degree of excellence 3. rank


- from the Latin base qui, quis 'who' + alis (suffix) 'of the kind of, pertaining to'

(Oxford 1986 edit. Hoad, p.381, p.9)

Quality is an important issue for archaeology, as archaeological activity can damage the condition of a site. In order to ensure the outcomes or products manufactured by archaeological practice, quality control measures are required. Quality control in manufacturing is the 'routine checking of a product or process to make sure it meets a predefined standard' (Trainor & Krasnewich 1996, p.632).

Good or poor standards can be determined by benchmarking, 'comparing your quality characteristics against the quality characteristics of the competition, or the best-in-class for a particular function or industry' (Stocker 1990, p.188).
Poor quality archaeological processes in this case do not justify the erosion / destruction of an archaeological site.

Stewhart's model (in Stocker, 1990, p.170) argues that by reducing variation within a process, improvements are made in quality and cost.

'The philosophy of reducing variation is based on the fact that there is 'a best' value for a product's function, fit and appearance. This value is the target that must be achieved to ensure the highest level of quality' (Stocker 1990, p.171).

Standards and benchmarks are constant quantities designed to reduce variation, however can be subject to innovation giving rise to such principles as 'World's Best Practice'. In maintaining best practice, an organization commits itself to keeping informed as to how other organizations perform in the industry.

The difference between an organization's benchmark, and the benchmark of a competitor organization that has the best practice in the world, represents areas where processes can be improved.

Managing these issues has been referred to as Total Quality Management and can be defined as:

'A recognized system (set in place by the management of a firm) that empowers employees to accept or reject their own output to agreed standards, based on the premise that each work group is a customer of the proceeding group, and that continual advancement should be made towards zero defects. Under such a system, statistical process controls allow observation of deviation from agreed standards, and immediate rectification of the process or product'(Kolter, et al., 1994:374).

There is a dichotomy in the beliefs and values of Total Quality Management as identified by (Brooke 1995, pp.119-133). The legacy of scientific management (Taylor 1947, pp.39-73) dealing with 'hard' quantitative issues that can be seen as being objective forms one extreme of the dichotomy and the other is formed by the subjective, human 'qualitative' issues. This is an important consideration for archaeological practice, as the second stage of production, interpretation is affected by the 'subjective' context of the archaeologist (3.6, figure 8), whilst maintaining scientific aims that are explicitly 'objective'. To which end of this dichotomy quality should be valued at depends on the desired products that are being produced from the process. Depending on what is more important in the product design, ie subjectivity over objectivity, will determine quality outcomes. However most
beliefs of quality will fall between these two extremes and reflected in the type of benefits that the product is designed to give consumers.

For archaeological practice, quality systems should be applied through standardization of processes in the manufacture of archaeological products such as information and artefacts. How well those products or outcomes rate in terms of quality depend on contrasting them to initial plans and designs of the desired product.

Another component of quality is reflected in the Total Time Cycle (Thomas 1989, pp. 194-197) which measure efficiency in terms of time. This can be important for archaeology in terms of rescue archaeology where time restrictions limit the process.

Other issues that are relevant to maintaining quality include the Japanese principle of 'Kanban' or 'Just-In-Time' that says a company should provide and distribute only what consumers need when they need it (Assael 1990, p. 806). This is important for archaeological practice in order to minimize the wastage of non-renewable cultural resources and to maximize the potential benefits of the cultural resources that are used. These notions of quality in the outcome or the product of archaeological practice need to be balanced with the affect that the process has on the stability of cultural resources. Preservation is a key issue for any archaeological activity and where outcomes or products can be created that minimize damage to the site both in the short and the long term are very important considerations.

Quality is an important issue for a production model, for by maintaining quality benefits are generated from non-renewable cultural resources and not costs.

CHAPTER FIVE

"One thing hastens into being, another hastens out of it. Even while a thing is in the act of coming into existence, some part of it has already ceased to be. Flux and change are forever renewing the fabric of the universe, just as the ceaseless sweep of time is forever renewing the face of eternity. In such a running river, where there is no firm foothold, what is there for a man to value among many all the many things that are racing past him?" (Marcus Aurelius, Meditations 6:10)

5.0 Markets for archaeological products

Having expressed this production model in terms of resource, process and product, it is important to consider for whom this product is designed. Products are designed for people, whether they be
information or artefact products. People who use archaeological outcomes can be defined in terms of markets. A market is:


In terms of archaeology, Darvill (1995, pp. 44-46) has identified use values for sites, and this can represent different markets. Fraser (1993, p. 24) has also indicated users of archaeological information, these also constitute markets. Each of the organizations operating in these categories constitute a higher stage of value added, that process archaeological products to produce new goods and services. These can be said to represent different industries (Kolter, et al. 1994, p.781), which further divide the general public into target markets of their own (refer Appendix II). As archaeology is about past cultures, archaeological products as concepts and ideas have the potential to be widely used in cultural industries. Based on the 1996 population census and selected categories, 3.3% of all persons employed in Australia had their main job in a cultural activity (ABS 1998, p.5). Many of these occupations produce culture for currently existing markets. The kinds of industries that these occupations are found include:

- Newspaper printing & publishing
- Periodical publishing
- Book & other publishing
- Film & video production
- Film & video distribution
- Motion picture exhibition
- Radio / Television services
- Music & theatre productions
- Creative arts
- Performing arts venues
- Libraries
- Museums
- Parks and gardens (ABS 1998, pp. 10-26)
5.1 Marketing

Marketing: A social and managerial process by which individuals and groups obtain what they need and want through creating and exchanging products and value with others. (Kolter, et al., 1994, p.783).

Archaeology can benefit greatly from applying marketing tools to archaeological products. As a product, archaeology as some natural advantages, because it deals with past societies and has a nostalgic value. Nostalgia, the individual's need to feel a link with the past as a concept, is commonly used in commercial industries to promote messages about their products. Here heritage and nostalgia are used to 'draw the consumer into a position from which a deeper message can be delivered' (Bower 1997, p.39). What the message is depends upon who is delivering it. This has important implications for archaeology, as archaeological products need to transmit the message of preserving the value of cultural resources, especially in an environment where they are under threat.

The managerial process of marketing can also be called marketing management and is defined as: 'The analysis, planning, implementation and control of programs designed to create, build and maintain beneficial exchanges with target buyers for the purpose of achieving organizational objectives' (Kolter, et al. 1994, p.9).

There are a range of different philosophies that encompass marketing management, all of which reflect the type of business organization, its objectives and the way it operates.

As marketing is about developing, building and maintaining beneficial exchanges in achieving organizational objectives, it encompasses the entire business activity. It represents the way in which an organization sees the products and services it produces and ways in which that view can be expressed both internally and externally in the marketplace. (Kolter, et al. 1994, p.10).

Marketing involves itself in designing both the product and the organization for target consumers.

The production concept can be seen in the museum environment, where information and artefacts are used to create an exhibition and the marketing value adds by facilitating visitor numbers, sales, and more importantly distributes messages to the public about the importance of cultural resources. Some archaeological products are used in exhibits purely for monetary gain marketed on concepts of nostalgia. Hosty (1995, pp. 33-36) presents the ethical dilemma of marketing 'block buster' type exhibitions, such as the RMS Titanic at National Maritime Museum (Greenwich) in October 1994.
The exhibition came under criticism over the artefacts retrieved from the Titanic wreck, contravening the cultural significance of the place as a grave for the 1,500 people who perished on the vessel.

5.2 Formulating Marketing Strategies

Blockley (1995, p. 101) has outlined some of the principle features required in the formulation of a marketing strategy for archaeological practice which are manifest in a marketing plan. As products are designed for people, a marketing plan represents one of the first stages of product development and has broad implications for archaeological products. Elements of the marketing plan include the following:

i) Mission Statement
   What business are we in, and where do we want to go?

ii) Corporate Objectives
    How do we get there?

iii) Marketing Research
     Who are our customers and what benefits are they seeking?

iv) External Environment Audit
    How is our working environment changing?

v) SWOT analysis (Strengths, Weaknesses, Opportunities, Threats)
   What do we have to work with?

vi) Strategic Marketing Planning
    How do we match objectives and goals with resources and market opportunities?

vii) Action Plan
     When will we achieve our objectives and goals?
     Who will make it happen?
Monitoring and Review

Are we meeting our objectives?
What needs to be changed?

(Reproduced from Blockley, M, 1995:101-117)

These considerations are important if the archaeological process is to benefit consumers and users of archaeological products and cultural resources. Furthermore, the marketing plan is structured by the use value that the stakeholders identify for the cultural resource.

5.3 The four P's

In order to maintain and build the exchange relationship between the archaeological product and the people who want or need it four important considerations are required, as they all affect the outcome of the exchange. Known as the 'Marketing mix' it is made up of four important components, product, price, place and promotion.

Product - 'the most basic component of the mix, representing the product features, the package, the brand name and post-sales service.' (Assael 1993, p.89). For archaeology, this describes the information and artefact products. These can be further developed into a number of different products depending on how the information and service is to be used. Here use values go beyond the physical site, as information and artefacts can be further developed to encompass part of a new product.

Price - 'the amount of money customers have to pay to obtain the product / service'(Kolter et al.1994, p.42). Sometimes this is predetermined by the manufacturer through recommended retail prices. Within recreation and tourism industries, recommended prices are sometime determined by the customer's willingness-to-pay (Hansen, et al. 1996, p.151). Within the non-profit museum industry there is the belief that the public should not be discriminated by price, and projects should encourage free access. This has motivated many studies in the area of determining visitor 'willingness to pay' for museum services (Leask & Goulding 1996, pp. 240-257). There a a range
of pricing strategies (ie discounting) and these are influenced and influence the total marketing mix.

Place - 'represents the actions the company takes to make sure the product gets to the right target group at the right location and at the right time.' (Assael 1993, p.89).

Promotion - 'activities that communicate the merits of the product and persuade target consumers to buy it' (Kolter, et al. 1994, p.42).

Some of the strategies that can be adopted in each of the four P's is indicated in figure ten below. These factors all affect how a product reaches its consumer, and how the message of archaeology can reach people. This is important in justifying archaeological practice to the general public and local communities.

![Figure 10: The four P's and the Marketing Mix](image)

5.4 Heritage used to market development: Melbourne Central

'Melbourne Central is the first and only shopping center to be accredited as a Certified Tourism business by the Australian Tourist Operators Association' (undated catalogue, Melbourne Central).
The conflict of interest between development and cultural heritage preservation as shown by McGill (1995, p.5) and Isar (1986, p. 29), requires archaeological practice to have flexible outcomes. Finding a balance between the interests of heritage and development is by no means an easy task, however if achieved a number of different benefits can be seen. Benefits include preservation of the site by identifying an appropriate use for it, information value that can be used to enhance the development product, and making the heritage product accessible to the community. A good example of heritage and development coming together is the Melbourne Central Shopping complex in the city's Central Business District opened in 1991. Five years in the construction at an estimated cost of $A 1.2 billion, the complex is spread over two city blocks and contains more than 160 specialty shops, 30 restaurants, cafes and food stores along with the Daimaru department store. It also has a 55 storey office tower and is bounded by tramlines, carparks and an underground rail loop that stops at Melbourne Central station. The focal point of this shopping complex is a heritage listed building built between 1889 and 1890 called Coop's Shot Tower, standing some fifty meters high. Molten lead was dropped from the top of the Tower using the gravity method, cooling and rounding during its fall. Most of the shot produced was later used for the manufacture of ammunition cartridges. The Tower was classified by the National Trust (Victoria) in 1973 now sits beneath a 20 storey glass cone in the center of the complex (figure 11., courtesy Melbourne Central).

It is interesting to note that the Shot Tower has become an artefact within a building, as the developers have also constructed beneath the Shot Tower's foundations and have completely
enclosed it within the super structure. The building currently houses a small interpretative center and has restaurant tables on its roof top beneath the glass cone (Hedley 1998, pers. comm. Nov 16). The heritage building can be said to add value to the shopping complex in a number of different ways:

- The Shot Tower makes the shopping complex 'unique' in the marketplace from other shopping complexes.
- The Shot Tower as an attraction has the potential to draw tourists and visitors to the shopping complex.
- It makes the cultural resource more accessible for the community and the people of Melbourne.
- It achieves preservation outcomes by finding an adaptive use for the cultural resource.
- It makes the site of the 'artefact' (ie Tower) significant and unique in the cityscape of Melbourne.
- The shopping complex also services a societal marketing principle for the development companies, as these organizations can be seen as being 'socially responsible' and 'putting something back into communities'.

The Tower's state of preservation is high, comparing a photo taken at the turn of the century (figure 12) and the Tower today in Melbourne Central (figure 13).
Where development is needed on culturally significant sites, archaeological practice has the potential to design and create products can be used by developers to value add the cultural value of a place to a new development. This is one area of archaeological practice that warrants much more research.

CHAPTER SIX

Heritage means 'anything you want', Lord Charteris, Chairman of Britain's National Memorial Fund (in Davison 1991, p.4)

As preservation requires a series of long term decisions as to how the cultural significance of a place can be preserved and how that place can be used. As identified in the previous chapter other industries use archaeological products and outcomes to value add to their own products and/or services. This chapter and the one following looks at the Recreation and Tourism use value for archaeological sites and how new processes are used to create new products which make an economic contribution to local economies.

6.9 Cultural Resource Management

As databases on cultural or heritage resources accumulate through the activities of archaeologists and the outcomes of legislation, long term considerations need to be made in terms of managing the resource sites that are recorded and discovered. Archaeological Heritage Management (AHM), Archaeological Resource Management CRM), Cultural Resource Management are three terms used interchangeable to refer to the active “categorization, evaluation and decision-making on the future use or conservation of archaeological material” (Carman, et al. 1995, p.242). The industry that has developed internationally (AHM) as well as in Britain (ARM), Australia, and the United States (CRM) actively participate in preserving the resource.

Fowler (1982, pp. 21-32) identifies some of the roles that Cultural Resource Management plays in government agencies such as the Department of Agriculture, of Energy and of Defense in managing cultural resources. Decisions and actions made in these roles largely reflect legislative requirements
and involves maintaining inventory records of cultural resource sites, mitigating the effects of development and enforcing compliance to legislation (Fowler 1982, p.36).

Cultural Resource Management can be conceived as a series of new processes on both the cultural resource and the archaeological products created from it.

6.1 Non Western sites

Smith (1993, p.56) describes Archaeological Heritage Management as a process that 'fulfils part of a Western cultural, political and ethical concern with the conservation and curation of material items'. This is an important consideration when dealing with non-western communities and stakeholders. Very often notions which can be assumed in one culture are very difficult to transmit across to another culture. This is important when dealing with artefacts from a site as the material may be 'culturally sensitive'. By culturally sensitive, the material may be prone to loosing its 'cultural significance' if certain 'rules' of behavior in dealing with that material are not followed. The same is true for sites, where 'cultural significance' may be interpreted in terms of certain group membership within a culture, for example a 'men's or women's only site', in order to preserve that 'cultural significance' it is important to maintain those cultural 'rules'.

Though Archaeological Heritage Management has been identified as being inherently 'Western', and the application expressed in this thesis adopts that perspective, AHM as a concept has great potential to contribute to the preservation of sites for many other communities. This however presents a number of different approaches and strategies to preserving sites. Strategies for site preservation might involve exclusion of all non-members to a particular culture, on the grounds that values and rules of behavior in one culture cannot be or are difficult to transmit to other cultures. Very often as with the example of two Indigenous sites along the Murray (Fromm's Landing & Devon Downs), one site may be used for Western visitors as with Devon Downs, and others kept specifically for the Indigenous community to use and enjoy (Roberts 1998, pers.com.September 5).

6.2 The Heritage Industry

There are many different organizations that are concerned with the categorization, evaluation and decision-making on the future use and conservation of cultural material. Organizations such as the National Trust, historical societies, recreation parks and private museums actively participate in the
conversation of sites and artefacts. These organizations are supported by a wide range of professionals, amateurs, enthusiasts and volunteers. As many of these organizations are non-profit in their orientation there is sometimes a conflict of interest between applying commercial management tools and outcomes to structures not motivated by making money.

Middleton (1994, p.3) likens the operation of a heritage organization to that of a commercial business and to run a business one must take responsibility and accountability in areas such as;

a) planning and controlling the allocation of resources;

b) managing the daily routine operations involved in providing visitor access and promoting awareness;

c) budgeting efficiently for costs and revenues.

To further build on this Pearson & Sullivan (1995, pp.8-9) identifies three of the first steps to the effective management of heritage places;

i) Location, identification and documentation of the resource, that is, the heritage place or places within a defined area of land.

ii) Assessment of the value or significance of the place to the community or sections of the community.

iii) Planning and decision making, weighing the values of heritage place with a range of other opportunities and constraints that the manager must consider to produce a management policy aimed at conserving cultural significance (Pearson & Sullivan, 1995, pp.8-9).

These points can also be seen in the archaeological process, through discovering, interpreting and preserving. While non-archaeological organizations can conduct all of these activities, as the National Trust often does with built environments, without the benefits that archaeological excavation can bring to interpretation, along with the products generated form such activity, one can never say that the assessment of value or significance of the place is 'complete'.

Organizations such as the National Trust have developed their own standardized processes of assessment and evaluation and have been operating in South Australia since 1975. Many might assume that heritage is big business in terms of generating revenue from visitors, however this more the exception as opposed to the rule. For example, of the 330 heritage properties that are owned by
the National Trust of Scotland, only 60 are able to cover their own operating expenses and generate some profit. The industry is still largely driven by the contributions of volunteers and donations and funding from other organizations (Middleton 1994, p.18).

6.3 Protecting Sites from Visitors

As sites are non-renewable resources and are easily prone to destruction due to visitor pressures (Fyall & Garrod 1996, pp.133-141), there is a need to manage visitors on heritage sites. There are a number of different strategies in visitor management (McArthur & Hall 1996, pp. 23-26) as indicated in figure 14 which have been identified into three main groupings, site hardening (making the site visitor proof), controlling visitors by indirect means and controlling the level of visitation.

![Figure 14: Protecting a site from Visitors: Visitor Management](image)

6.4 Heritage Product Development

There are a number of different considerations in developing a heritage product. The process can be seen through the production approach by identifying the resource, the process and the product. Aspects that need to be considered from the resource perspective include the nature and characteristics of the site's significance as well as its tolerance to visitor numbers.
The process requires broadscale and strategic planning, as well as access to capital resources, and interest from the local community. The product represents a wide range of interpretation products such as demonstration, participation through either personal media and non personal media. Demonstration attempts to communicate to an audience, whereas participation communicates with an audience. Through demonstration, the audience has little or no opportunity to provide feedback, essentially audience involvement is passive. Participation on the other hand is interactive, and the audience can provide feedback or influence the course of interpretation. Demonstration and participation are relative to the means of communicating interpretative ideas, and this can be divided into personal media and nonpersonal media.

Most heritage products will endeavor to provide a mix of both personal and non personal media. Personal media requires individuals to act in varying capacities to provide organized talks, entertainment, and guided activities. Non personal media include such means as signage, publications, self-guided activities, visitor centers, audiovisual devices and outdoor / indoor exhibits. The value of the product is measured through the visitor experience (Mc Arthur & Hall 1996, 27) which is a direct outcome of the heritage product.

Archaeological products, such as information can be invaluable to the management planning of a heritage site and adds to the product development of the visitor experience. Information and artefacts produced by archaeological activity have also a considerable role to play in the development of interpretation products available at a heritage site. Interpretation can be said to have evolved from a fusion of recreation and education;

'an educational activity which aims to reveal meaning and relationships through the use of original objects, by firsthand experience, and by illustrative media, rather than simply communicating factual information' (Tilden 1977).

Heritage managers will use interpretation to achieve a number of objectives and thus contribute to the creation of a heritage product that delivers outcomes of visitor satisfaction. Objectives that managers seek to achieve include;

To enrich the visitor experience;

To assist the visitor to develop an appreciation and keener awareness and understanding of the place being visited;
To achieve corporate objectives by encouraging thoughtful use of the site by the visitor, resulting;
in the reduced need for regulation and enforcement and
in the careful distribution of visitors to reduce their impact on fragile resources'. (McArthur & Hall, 1994, p.27).

While some of the principles of interpretation have been identified, there are a number of considerations in its delivery, the way in which those principles are advertised to reach the visitor. Interpretative products seek to be noticed, using novelty and humor as powerful forms of communication and they should try to tell the whole story. To achieve these objectives in product delivery (ie interpretative product) visitor management strategies must understand the needs of the visitor to whom they cater. Some interpretative signs may be suitable for general visitors, but not appropriate for certain, specific types of visitors. Marketing research and strategies are important in this part of the product development, as they should identify the target customers who will purchase the product.

McArthur and Hall (1996) point out the importance of clearly identifying and defining the fundamental messages in interpretation as well as the target audience. These are important considerations in achieving visitor satisfaction and the overall management planning for the site. Should a mismatch occur between the message conveyed through interpretation and the target audience, then the heritage product is ineffective, resulting in negative impacts on the site and its strategy for preservation. Strategic planning is paramount in the development of successful heritage products, and once issues surrounding the resource, the process and the product have been identified, McArthur and Hall (1996:33) argue that they should be blended into three components:

- **Concepts**: A strong idea underlying a group of common messages.
- **Themes**: A group of characteristics drawn from the region’s natural and cultural heritage
- **Message**: What is actually going to be said.

These components are important in the marketing aspect of the heritage product, what makes it unique from other heritage sites, what sort of benefits does the experience offer above those available from
competing heritage organizations and how will it be promoted. The marketing concepts discussed in 5.1 are relevant in the development and delivery of heritage products.

Once concepts, themes and messages have been clearly identified they can then form the basis of a strategic plan, the different stages of which are outlined in Appendix III.

The objective of broadscale and strategic planning is to utilize the resource and to create heritage products through visitor experience. The success or failure of a heritage site as a business depends on the product development mentioned above and how successfully it delivers outcomes to target audiences. Some heritage sites do generate revenue above and beyond their maintenance and operating costs, examples such as Uluru, where projected numbers of visitors indicate an increase well above the resource capacity, however on the whole most heritage sites require assistance through funding and donations. Whether a heritage site is used to generate profit or not, depends largely on the organization's corporate objectives. Profit and revenue generators are only one aspect of the value added process, and the organization's objectives may well be something completely different, such as providing a service to local schools. These outcomes, while they are difficult to measure in dollar terms, because they are not profit orientated can be considered part of a value adding process.

If an organization spent $300 on providing educational tours for local school children, complying with the organization's objectives, then the organization has effectively contributed $300 for local school children. It is where the business decided to invest the outcomes of its effort.

When applying value added principles to heritage business, it is important to consider that profit is not always the main objective of the organization. Other areas of value added are generated by heritage business, in their contribution to the local community, in providing resources for the preservation of sites, as well as providing a facility through which individual members can contribute to benefit the greater community.

CHAPTER SEVEN

Tour n. 1. travelling around 2. journey to one place after another 3. excursion

Tourism n. 1. tourist travel 2. this as an industry

Tourist n. one who travels for pleasure  (Collins Concise Dictionary 1991 edit. Knight)
7.0 The Phenomena of Tourism

Tourism as an industry is a recent phenomenon, even though travelling for pleasure has been known to occur for many centuries in many different parts of the world. Technological innovations in travel by land, sea and air have made travelling for pleasure more accessible and affordable for more and more people.

From data produced by the Bureau of Tourism, tourism in 1989-1990 contributed to an estimated A$ 23.8 billion to the Australian economy, representing some 5.2% of total Gross Domestic Product in Australia (Brokensha & Guldberg 1992, p.5). In terms of employment, input - output analysis suggest that for the same period tourism generated employment for some 448,500 persons. Of total tourism, domestic tourism made up some 72.5%, the remainder generated by international tourism.

7.1 Tourism Industry

Tourism is a means by which a local economy can generate a stable income as well as diversify some of its industries. It is generally accepted that the tourism industry is made up of five main components which are transportation, accommodation, infrastructure, natural resources and hospitality (Robinson 1976, in Hill, et al. 1996, p.49).

7.2 Tourism Products

Tourism products, particularly cultural tourism products, are constituted by a number of different components which can be seen as a set of attractions or features (Evans 1996, p. 114):

1. Handicrafts
2. Language
3. Traditions
4. Gastronomy
5. Art and music
6. History of the region, including visual reminders
7. The type of work engaged by residents and the technology that is used
8. Architecture giving the area a distinctive appearance
9. Religion including visible manifestations
10. Educational systems
11. Dress
12. Leisure activities

An important aim is to create a relationship between visitor and host community through concepts of sustainability, authenticity, integrity and education. Additionally, there is the emphasis on what people do when they are travelling, rather than just how they arrive at place and where they stay while they are at a destination.

Some of the characteristics of the process of developing or creating cultural tourism products include the need to build on market cultural strengths while emphasizing authenticity of the visitor experience. The aim here is to convey meaning and understanding of the broad context as to a particular location. Tourism products should also incorporate the local community, as the 'culture' of place is reflected through the people who live at that location.

Archaeological outcomes or products can contribute directly to the visitor experience and are resources used to create tourism products. All of the features of a location or an attraction need to be marketed a packaged and is a process that starts from the inception of a tourism product through to its final delivery. Jansen-Verbeke (1996, p.168), identifies the importance of creating integrated tourism products that might start with a visitor centre providing information on other products such as food and wine, shopping, recreation and accommodation.

The visitor centre at a given destination gives consumers choices as to how they will spend their leisure time within the bounds of a given area. The visitor centre should promote the kinds of goods and services available to potential consumers, with different marketing focuses, depending on the target audience. All of these services for leisure and entertainment, contribute to the overall economy of the area and the businesses engaged in producing and selling leisure / recreational products.

7.3 The Economic Value of Tourism

As mentioned earlier, tourism contributes some A$ 23.8 billion to the Australian economy in direct dollar terms. There are a number of economic models that can be used to measure the economic
impact of tourism in region or country, and encompass a broad range of activities which include travellers for holiday, meetings, conventions and exhibitions (Dwyer & Forsyth 1996, p.313). Revenue generated from tourism has a multiplier effect on the economy, whereby generated revenue filters down into other sectors of the economy. For example, a tourist might spend $100 at a hotel, the hotel pays wages, pays for services such as cleaning, printing, linen supplies, food and beverage supplies, etc, all of which contribute to incomes in other industries. Skene (1993, p.19) for macroeconomic applications uses the Computable General Equilibrium Model which reflects two different multiplier effects of international tourism on GDP ranging from 1.8% to 11.4%. The range reflects government economic policy whether a particular government focuses on reducing its deficit or whether it focuses on stimulating the economy by injecting funds into it, generating multiplier effects in industry.

In relation to government funding, issues such as displacement occur, whereby funds are spent in one sector of the economy at the cost of other sectors, all of which affect the final economic scale. There are many other considerations in measuring the economic value of tourism in a given area, such as expenditure switching, whereby a tourist will switch their expenditure to one event from other entertainments available within the local economy (Mules 1996, p. 351).

Focusing more on microeconomies, the heritage of a locality can play a key role in attracting and retaining visitors as well as residents. This is important as it contributes to sustaining local economies by developing new industries (Swarbrooke 1996, p. 447). Berry (1996, p.39) argues that the heritage of a place is more likely to be used by the local community, while tourism is but one possible way to support it. This has significant implications for archaeological sites, as tourism has the potential to fund the preservation of sites. However uncontrolled visitor numbers can also place pressure on the host community. Finding a balance between what the infrastructure and the community can handle in visitor numbers is paramount to sustainability. Basic tourist needs for infrastructure such as roads, water, power and the by products produced from their activities such as air pollution and rubbish can have a great impact on the lifestyles of the host community. Proper tourism planning and management are required if both the tourist and the host community are to benefit from the exchange of sustainable tourism products and the revenue generated from such an industry.
Berry (1996, p.40) identifies two economic groups of heritage within tourism:

- Attractions as forming the forefront of tourism by generating income from a heritage site operating as a self sustained business and,

- Heritage forming a backdrop to enhance the uniqueness of a destination or location. Heritage is preserved not specifically to generate direct income from tourism, however contributes to the overall experience of a place or destination.

Where heritage forms attractions, they are products which by Berry's (1996) definition do not change substantially. Examples include country houses, city palaces or castles. These attractions are in constant competition for consumer attention with other more modern attractions such as theme parks, national parks and other 'conservation' attractions which can change their products. Heritage as forming a backdrop for a destination does not generate income from tourism directly, and is often promoted by local governments and businesses to enhance the uniqueness of a place and thereby attract visitors to the destination. Heritage in this area includes buildings used for housing or business premises, local churches, monuments. Income is generated from other products that are available at the destination.

In order to determine the economic contribution that tourism can make to a host community an economic impact approach is required. This is different from the Computable General Equilibrium (CGE) model (Skene 1993, p. 19) which is more applicable to macro-economic conditions. For micro-economic calculation a much simpler equation for calculation for the purpose of this thesis is presented below:

\[
(T) \text{ Total Expenditure} = (A) \text{ Attraction} + (H) \text{ Hotel} + (R) \text{ Remaining Expenditure}
\]

(Hansen et al. 1996, p.153)

This formula is easily applied to a given area or locality to gain some indication of the economic contribution of tourism. Some of the value added outcomes of the tourism industry is within employment, and these are considered the results of a multiplier effect within the local economy.

7.4 Archaeology, Recreation and Cultural Tourism
Archaeology can develop products for the tourism industry, which in turn generates economic outcomes for local communities. This important, as archaeological practice provides the means by which cultural resources hidden in a place can transformed into a product.
View of Creek Street in 1850, looking south from a position opposite the mine entrance. These dugouts were excavated out of the creek banks as dwellings by early miners and extend for some three miles on both sides of the creek.
8.0 Introduction
The first section of this thesis explored the process of archaeological activity using a production approach, which constructs archaeological outcomes as products. It breaks the process of archaeology down into identifiable production stages, such as discovering, interpreting and preserving. Each of these production stages can been seen as a step in the value added to both the site and to a product, which can contribute to economic outcomes. From the perspective of archaeology, a production approach allows for the integration of archaeology and cultural tourism. It is an approach that works with a community's agenda to achieve outcomes and benefits for the community. This is important as heritage management is an inter-related part of archaeology, rather than a separate entity as it has been often thought of by academic archaeologists (Smith 1993, p.303). In applying a production approach, archaeology not only gains a better understanding of the past, but also how that understanding of the past can benefit stakeholders in a practical manner. Under this approach the primary motivator for archaeology is driven by the stakeholders in a cultural resource and not driven by academic or legislative requirements. New skills are needed to take on this approach in areas of cultural resource management and marketing, if future archaeologists are to place themselves in industries that contribute to local communities. The potential benefits are that archaeological practice can expand into new areas and can be easily integrated with other industries such as cultural tourism. This is important for communities who may be resource rich in cultural resources, however do not have processes by which they can use them to their benefit.

8.1 Integrating Archaeology and Cultural Tourism
Figure 15 illustrates how the archaeological process can add value to a site that is to be used for recreation and tourism. In this case the process was initiated by the stakeholders who own the site and the cultural material found on the site. The area of land has a market value expressed in dollar terms, and can be reflected by the value of the real estate. Applying the three stages of value added identified in the archaeological process a cultural value is produced from the site. This value is in terms of the products produced by the archaeological process which result in both information and artefacts that make the site more unique. These outcomes of archaeological activity can increase the real estate value for a site that is to be used for recreation and tourism. The cultural value of the site is preserved and maintained through the Heritage Manager who generates an attraction value. This
attraction value is measured in terms of how unique the site is in relation to other sites of its type and to the visitor experience that the heritage offers. The better the visitor experience, the higher value the site has as an attraction.

**Figure 15: Archaeology adding value to Tourism products**

This attraction value is then used by tour wholesalers who package tourism products for tour operators to market and sell to consumers for a retail value. This retail value is created by the combination of archaeology, heritage management, and tourism. Price and value should not be confused, as value in the final product is measured through the visitor experience, while price is dictated by the marketing mix used to sell the product. The total amount of visitor experiences sold can then generate economic outcomes.

### 8.2 Archaeology in the Burra dugouts

A recent conservation study undertaken in the township of Burra in South Australia’s Mid-North provided a good opportunity to apply some of these approaches.

The Burra Dugout Conservation Study is an interesting case study in itself as it presents a number of different complexities. Firstly, there has been no previous archaeological activity at the sites, even though one site is already in use as a visitor product. Secondly, all three stages of value added found
in the archaeological process, ie discovering, interpreting and preserving have already been applied to one site by the South Australian National Trust. The National Trust and the District Council, the stakeholders of the sites have already 'discovered' the sites by recording them in a previous study, the first stage of value added in the archaeological process. Also the second stage of value added 'interpreting' has also been done, by producing interpretative information on one of the sites. This interpretation however has not been taken to its full potential, hence the need for archaeological investigation of the site to better understand it. In addition legislative protection has also been achieved for not only the two sites in the study, but for many other areas of significance in the Burra township. There are 77 sites listed on the Heritage Register for protection and the Burra township Registered as a Historic Town. The last stage of value added in the archaeological process 'preserving' has also been done on a dugout site that is currently being used for recreation and tourism. It also has a retail value as a product and annually generates income and contributes to the local economy. The opportunity to develop a second site where material evidence of dugouts exist has presented a need for archaeological investigation. This presented a good opportunity to research and calculate:

a) How archaeology can contribute to the dugouts.

b) How much a developed site used in the heritage industry can generate in dollar terms to the local economy.

8.3 Methodology

A model needed to be identified which provided an equation that could be applied to a set of data to determine a figure for the annual contribution that tourism makes to a local economy. For this purpose the equation presented by Hansen et al. (1996, p. 153) was used to determine an estimated figure (ie - Total Expenditure = Attraction + Hotel + Remaining Expenditure). Issues such as multiplier effects, commonly associated with measuring the benefits of tourism to an economy have not been dealt with as well as issues such as the effects of displacement of tourism expenditure. There is considerable potential for future research in this area, beyond the scope of this thesis.

With data collected from the Burra Visitor Centre, the Burra Traders Association, data from SA Tourism Commission and various other sources the equation provided by Hansen et al. (1996, p.153) can be brought to life.
8.4 Previous Research

The Heritage Commission has funded one previous conservation study of Burra which appeared in 1978. Section one of the conservation study is a historic buildings and area survey which considered the physical parameters of the township precincts providing descriptions, significance, history and recommendations (Auhl & Gilbert 1978).

The study also evaluated sites using an integrity priority and a preservation category. The priority rating is concerned with the security of the site, while the category rating is on the basis of how essential the site is to the role of Burra as a Historic Town.

Nine archaeological sites are identified, three classified as being at ‘risk’ and four relatively ‘secure’.

Archaeological sites include:

<table>
<thead>
<tr>
<th>Site</th>
<th>Date</th>
<th>Preservation</th>
<th>Priority</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smelts Area</td>
<td>1849</td>
<td>essential</td>
<td>at risk</td>
</tr>
<tr>
<td>Burra Creek</td>
<td>1845-1852</td>
<td>essential</td>
<td>at risk</td>
</tr>
<tr>
<td>Hampton</td>
<td>1857</td>
<td>essential</td>
<td>at risk</td>
</tr>
<tr>
<td>Pickett's Cottage</td>
<td>1844/1845</td>
<td>to be encouraged</td>
<td>some doubt</td>
</tr>
<tr>
<td>‘Sunday Row’</td>
<td>1850</td>
<td>to be encouraged</td>
<td>some doubt</td>
</tr>
<tr>
<td>Miner's Dugouts</td>
<td>1846</td>
<td>essential</td>
<td>secure</td>
</tr>
<tr>
<td>Paxton Square</td>
<td>1852/1856</td>
<td>essential</td>
<td>secure</td>
</tr>
<tr>
<td>Open Cut</td>
<td>1870/1970</td>
<td>essential</td>
<td>secure</td>
</tr>
<tr>
<td>Pig &amp; Whistle Site</td>
<td>1850</td>
<td>to be encouraged</td>
<td>secure</td>
</tr>
</tbody>
</table>

Section two of the study was produced by Lester Firth & Murton Pty Ltd (1978) which identifies the qualities that contribute to the character of Burra, along with objectives and policies for future conservation and development. It contains statistics on the town's population, economy, employment and tourism and has detailed drawings of the townscape. The value of maintaining the character of many of the historic buildings in the township contribute to the overall appeal the town has as an attraction for recreation and tourism.

Other publications used in this thesis include Auhl, I. (1986) which contains an overall history of Burra and its townships, as well as the publication produced by the Department of Mines and Energy (1994) used as a guidebook for the passport key system.

8.5 The National Estate Grants Program
On March 29, 1996, the then District Council of Burra Burra (now amalgamated with other Councils to form the Regional Council of Goyder) and the SA National Trust applied to the National Estate Grants Programme (NEGP) for funding of a conservation study. (Yelland 1991, p.43) defines the NEGP as being part of the Commonwealth Government's commitment to heritage conservation, which makes funds available to assist states and territories with their conservation efforts and goes on to define The National Estate as:

'Those places, being components of the natural environment of Australia or the cultural environment of Australia, that have aesthetic, historic, scientific or social significance or other special value for future generations as well as for the present community.'

The sum of $9,000 was received by the now Regional Council of Goyder with the proposed total costs of the conservation study coming to $12,000. The title of the project is 'The Burra Creek Dwellers - Dugout Conservation Study', which focuses on two sites owned by the Regional Council and the National Trust. The significance of the two sites has been expressed as being:

'important to Burra, State and National heritage, providing a significant record of those who contributed to the economic growth of this state' (Appendix IV, Sec 8).

The aim of the project was to produce a conservation study, which would benefit the National Estate by contributing to conservation outcomes. The conservation study in itself, is a product. Benefits of the product includes a set of data, conclusions and recommendations which improves the knowledge and interpretation of the Burra Creek area. The conservation study as a publication (when complete) is to be distributed to the Burra Community School and Burra Community Library / Local History Room. The target market for the product has been identified as the Burra Community, Cultural Visitors and the Burra Community School.

As the National Estate is funding 75% of the study, it is also a target for the product, as are the Regional Council and the National Trust of SA. Results of the study would determine how one of the sites currently disused can be conserved with suggestions on future use of the site.
The conservation study is being undertaken by Austral Archaeology, an archaeological consultancy, with Flinders University Archaeology commissioned to survey the site.

As shown in figure 16, the dugout sites are the cultural resource and archaeology the process, the conservation study the product, and the Burra Community, cultural visitors and the Community School the target market, the consumers of the product.

8.6 Location

The township of Burra is located 157 km north of Adelaide on the Barrier Highway in South Australia. It is a diverse area that reflects dry land, pastoral and agricultural activities and is along the
boundary of Goyder’s line with drier regions to the east and north and more fertile valleys to the south. In its heyday Burra was an important centre in the copper roads to Port Adelaide and Port Wakefield (figure 17).

Figure 17

8.7 Population

In 1991 the town's population was 1,191 according to SA Tourism (1992, p.7) and a recent webpage maintained by the visitor centre in Burra cites the population as 1,250. The 1978 study compared some of the demographic features of the township with those of Adelaide, with few differing points, apart from a higher proportion of Australian born people found in Burra (91%) compared with Adelaide (70%) at the time of the study.

8.8 Economy

Cereals and wool are the region’s primary products, and include dairying, beef cattle breeding and sheep farming. It is with little surprise that Lester et al. (1978, p.36) also found that over one third (35%) of the employed population in Burra were farmers in 1977. Between 1971 and 1981 mining
operations reopened with the working of an open cut mine over the original mine shafts, yielding some 24,000 tones of copper ore. Though the open cut mine destroyed the centre of the mine shafts, the activity contributed to the preservation of a number of historic buildings, including the restoration of an engine house now used as museum within the Burra Heritage Trail (Wright 1998, pers. comm. April 14). Additional long term benefits to the local economy include the establishment of a processing plant, which still operates as a chemical plant employing some thirty people. As a there was no conservation study of the area conducted before the mine opened in 1971 it is difficult to gauge how much cultural material on the site was destroyed. However, apparently most of the buildings in the main mine shaft area were due for demolition, having been disused for nearly one hundred years (Wright 1998, pers. comm. April 14). In economic terms for the local economy, the value of the cultural resources found on the site were weighed up with the value of the mineral resources of the site. Capital for the restoration of an engine house and for the relocation of a chimney stack were made available from the mining operation to mitigate the loss of the cultural material destroyed in the process.

In recent years there has been a decline in rural services across Australia and data collected from the Burra Trader’s Association (1998, see Appendix V) also indicate a similar trend in the decline of services in the Burra township. The closure of Government depots in the Burra township such as Electricity, Road and Telecom over the last twenty years has contributed to the growing erosion of the local economy. Banks have closed and many small businesses have also ceased to operate, affecting the overall service provision available to the local community. In contrast however, new industries have developed, such as tourism, which can offer business opportunities for the local economy. In the past the Council has taken an interest in tourism opening 32 cottages for bed and breakfast in 1983. Speaking to one publican (Kooriinga Hotel) tourists make up some 70% of the Hotel’s business, and tourism was considered essential to its survival.

8.9 Tourism

Tourism is can be an economic contributor to local economies and according to PPK Planning et al. (1993, p.1) in 1991/1992 it contributed an estimated 1.8 billion to the South Australian economy. In the greater region identified as the 'Classic Country' by the South Australian Tourism Commission, which includes the Mid-North (Burra) and Yorke Peninsula, overnight visitors spent approximately
$107 million in the area during 1993/94. This is a considerable economic contribution for small local economies.

Between July 1997 to May 1998 some 14,242 visitor nights were spent in Burra (Burra Visitor Centre 1998, refer Appendix VI). By using data produced by Johnson & Phelan (1992, p.13), average figures for visitor expenditure on overnight accommodation in South Australia come to $50 per night.

Hotel expenditure in Burra = Visitor Nights (14,242) x $50 = $712,100

8.10 The Visitor Information Centre

The Burra Visitor Information Centre is operated by the National Trust Burra branch, having inherited it from the local Council who saw little potential in tourism in July of 1997. Peak seasons for tourists in Burra are from mid-March until mid-November.

55% of visitors are primarily from Adelaide, 40% for interstate, and followed by international visitors making up 5% of total visitors (Botting 1998, April 17). Burra is also visited by interstate travelers en route to Adelaide from Victoria and New South Wales. The largest segment of the international visitor market comes from the United Kingdom, with many visitors interested in the Welsh and Cornish connections in Burra’s history.

Visitor profiles tend to be fairly diverse, with visitors during school holidays more likely to be family groups, and during weekends young couples visiting Clare’s wineries and Burra’s antiques and heritage. During March and April, September and October, during the cooler months, more elderly/senior citizens visit the township, usually on bus tours.

94% of visitors to Burra travel by private or hired vehicle, the remainder traveling by express coach or by bicycle.

The visitor centre also engages in marketing activities by promoting Burra as an attraction through travel publications and the internet. Discount Cards and booklets are also strategies employed, as well as occasional exposure through television holiday shows such as Postcards, Getaway Holidays and the Great Outdoors.
8.11 Attractions

The main attractions available in the historic township of Burra are found within the Heritage Trail or The Passport Key System as it is sometimes called. The Heritage Trail is run through the Burra Visitor Centre, operated by the National Trust in Burra. The Heritage Trail is made up of 43 sites which have been integrated into the 'Burra Heritage Trail'. Access to each of the sites requires a key hired from the visitor centre and the visitor is then free to visit any particular site (refer figure 18). Tour guides, bus guides and brochure guides are also available for groups and the service is regularly used.

figure 18: The Burra Heritage Trail (Drew 1988, p.28)

The Visitor Information Centre acts as a 'one stop shop' on information about goods and services available in the local area. It serves an important function in promoting the services and products available in the local economy (refer Appendix VI). It also acts as an information receiver, collecting information on visitor numbers and visitor types.
Each site in the Heritage Trail has interpretive signage and the information booklet accompanying the key provides background information about the significance of each place. The key hire is $20 for a weekend/week to visitors and 4,428 keys were hired between July ‘97 and June ‘98 (Appendix VI). This provides us with a figure of $88,560 annually generated by the Passport System.

Returning to the equation:

Total Expenditure = 712,100 + 88,560 + Remaining expenditure

As an attraction, the Heritage Trail draws in visitors who may spent on other products and services available, represented in remaining expenditure. While calculating an exact figure for remaining expenditure is beyond the limits of this research, it is possible to get general data on what remaining expenditure might be. It includes meals, petrol and oil as well as shopping. Average figures for expenditure per night for visitors on all trips in South Australia in 1992 according to Johnson & Phelan (1992,p.13) was

<p>| | |</p>
<table>
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<tr>
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<tbody>
<tr>
<td>Meals</td>
<td>$11</td>
</tr>
<tr>
<td>Petrol &amp; Oil</td>
<td>$ 9</td>
</tr>
<tr>
<td>Shopping</td>
<td>$ 7</td>
</tr>
<tr>
<td>Total remaining expenditure per person</td>
<td>$ 27</td>
</tr>
</tbody>
</table>

As the total number of visitors to Burra is not available, for the purpose of this calculation let us assume that the total visitor numbers is represented by visitor nights. Total number of visitors to Burra is likely to be much higher than total visitor nights (ie 14,242), as there are many day trips from Adelaide to Burra, the data of which has not been made available.

Total Visitor Expenditure = Hotel + Attraction + Remaining expenditure

$1,185,194 = 712,100 + 88,560 + 384,534

Thus one can assume that for 1997-1998 tourism contributed over A$ 1 million to Burra’s local economy, which is important in sustaining many of the basic services available in the town to the locals. This figure does not represent the total contribution of tourism to the local economy as it omits revenue generated from tour guides and additional expenditure above the $27 per person in the purchases of such items as antiques and souvenirs. However, the objective of identifying a figure for
visitor expenditure in Burra is to highlight the contribution that heritage business can make to the local economy.

8.12 The Heritage Trail Product

The most popular of all of the 43 sites available to visitors in the Heritage Trail is the mine site, followed by the Redruth Gaol and the miner’s dugout (Burra Visitor Centre 1998). Thus the dugout site along Blyth Street enjoys some prominence in the whole visitor experience of the Heritage Trail. The dugouts were first included in the passport system in 1981, with maintenance costs for the ‘97-’98 period coming to $746 for a twelve month period. A breakdown of costs for the site provided by the visitor centre are as follows;

<table>
<thead>
<tr>
<th>Item</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Repairs and maintenance-</td>
<td>$152</td>
</tr>
<tr>
<td>ETSA-</td>
<td>$137</td>
</tr>
<tr>
<td>Water rates-</td>
<td>$131</td>
</tr>
<tr>
<td>Wages-guides-</td>
<td>$ 9</td>
</tr>
<tr>
<td>Wages - maintenance-</td>
<td>$318</td>
</tr>
<tr>
<td>Total-</td>
<td>$746 (Burra Visitor Information Centre 1998)</td>
</tr>
</tbody>
</table>

As there are 43 sites in the Heritage Trail and as a package they generate some $88,560 from visitor expenditure on attractions, it can be said that each site annually generates some $2,059 for the local community being used for tourism and recreation. Without making distinctions as to which sites are visited more regularly than others, each site can be said to contribute 1/43 of the total $88,560 generated.

Applying the value added formula for the dugout site;

\[
\text{Sales} - \text{purchases (Costs)} = \text{Value Added}
\]

\[
$2,059 - $746 = $1,313
\]

The value added also extends to a free product for the local population who have free access to the Heritage Trail. This figure is a general figure, as there are areas of variations that may effect the total value added of any given site in the Heritage Trail.

Additionally, as an attraction, the site contributes to other expenditure by visitors in the township, represented by hotel expenditure and remaining expenditure as identified above.

As there has been little archaeological activity in the Burra township, places of significance have been largely identified by conservation studies prompted by the Heritage Commission. This represents the first stage of the value added in the archaeological process. All three stages of value added have
already been conducted by the National Trust on the Welsh Creek site (figure 19). The second stage of the process of archaeology, interpretation was done by the National Trust, and this largely relies on historical information and a physical description of the dugouts. The third stage of the process, preservation occurred when the dugouts were included into the Heritage Trail.

Figure 19: Stages of Value Added to the Welsh Creek site

8.13 Community attitudes to tourism

The District Council of Goyder is not entirely convinced that tourism is a viable economic industry in Burra, as many farmers in the region find tourists a hindrance to their day to day operations. Too much uncontrolled tourism can also have a negative impact on a local community, placing increase demands on infrastructure such as roads and utilities, maintenance costs for public facilities. However as calculated earlier, an injection of over A$ 1 million annually into a local economy for a town of twelve hundred people is a vital contribution in maintaining the services that are available both to visitors and the local population.

The main aim of the Visitor Centre is to build up awareness of the four museums in Burra, both for the local population as well as visitors. One of the problems confronting the four museums in Burra
at present, is the need for more visitors. The museums have difficulties in attracting sufficient numbers in order to make them viable. To complicate this, locals have free access to the passport keys from the Visitor Centre and frequently make use of them for when friends or relatives visit (not included in the value added data sets). This causes a displacement effect on the full potential that the museums have to raise revenue. This reflects the objectives of the previous conservation study (Auhl & Gilbert 1978) which highlights the importance of maintaining a balance between community interests and those of business. Furthermore, the National Trust relies on the support of volunteers and enthusiasts in maintaining their day to day operations, and therefore business objectives come after community interests. Graffiti and vandalism at the sites also presents a problem for the Heritage Trail and according to Botting (1998, pers. comm. April 15) the perpetrators are often locals.

8.14 The Flinders University site visit

The contribution made by Flinders University for the Dugout Conservation Study was to conduct a pre-disturbance survey of two dugout sites, one at Welsh Creek, a site currently used in the passport system by visitors and the other known as the Mitchell Flat site, a disused paddock on the banks of Burra Creek. One of the objectives was to collect information as to the construction of the currently preserved dugouts and how this information can add to the interpretation of the Mitchell Flat site. The data collected is to directly contribute to the conservation study, the product of which is targeted to the local community and to cultural visitors. One of the advantages that Flinders University Archaeology offers to the conservation study is the availability of labour for the survey of the two sites. There are further proposals for the University to conduct future excavations at the Mitchell Flat site, pending the conclusions drawn from the conservation study.

8.15 Survey methodology

i) Archaeology students: where divided into four groups, with three students per group., Each group was allocated either the total station, dugout 1, dugout 2 or dugout 3. Each dugout was measured by baseline & offset, sections drawn and photographed. Notes were made of any surface material both outside and in the dugouts, as well as methods of construction, materials used.

ii) Cultural Tourism Students: provided an on site explanation of the archaeological process to visitors, acting as site guides. They also produced and distributed a brochure on site for use with
interpretation for visitors. For the five days that the students were engaged in this activity, it value added to the visitor experience for those who visited.

8.16 The Burra Creek

Historical accounts suggest the whole length of the Burra Creek through the township of Kooringa was riddled with dugouts (Auhl 1986, p. 106). The two sites that were considered by students include three preserved dugouts at Welsh Creek, a tributary to the main Burra Creek, and at Mitchell Flat were there are the remains of some fourteen collapsed dugouts. Both sites were identified in the 1978 conservation study and are considered to be of 'cultural significance'.

Figure 20 Plan of Kooringa township 1849 (Drew 1998, p. 55):
8.17 Welsh Creek

The site known as Dugout Creek is located in a tributary of the Burra Creek called Welsh Creek. The land is owned by the Council and currently operates as a site in the passport system run by the National Trust. The total land area is 2249 square meters and is located on the corner of Blyth Street and Ayers Street (figure 21, (Anson 1998)).

Figure 21: Welsh Creek Site

The area is fenced off and a sign indicating that the area is part of the passport systems identifies it as 'Miner's Dugouts-c. 1850'. Admittance requires a passport key which is obtained from the Burra Visitor Centre.

Three dugouts were identified, one on the northern bank and two one the southern bank, with the gully floor some 10-15 meters wide running east-west. This is currently used in the Burra Heritage
Trail and is referred to as site 38. Brief information made is available to visitors using the guidebook that accompanies the package.

A walking track descends some 3-6 meters from the embankment to the gully floor to an interpretative sign placed near the entrance of one of the dugouts (refer Appendix VIII).

There is also one collapsed dugout, opposite dugout 2 and dugout 3 identified as feature 4 in figure 18.

8.18 Environment Description

The gully was relatively dry along the embankment, with low grasses at the base of the gully, and lawn grass down the middle. Two pepper trees (Schinus molle) grow in the area, a large one growing on the edge of dugout 1. The area is regularly maintained. For a description of the dugouts at Welsh Creek refer to Appendix IX.

8.19 Current maintenance

Council workers remove about 10cm of soil from the floor of each dugout annually. The build up is due moisture eroding the mud render used on the walls and ceiling. Chicken wire and cement have also been used as render in order to further preserve the eroding interior.

8.20 Surface Material

There was very little surface material found, this is probably due to the annual removal of the top layers of soil in each dugout. According to Anson (1998) who discovered accounts of artefacts found during the 1973 reconstruction included the remains of a cupboard recess and a piece of malachite in the shape of a bottle. The latter is still in possession of the individual who found the artefact.

8.21 Threats to the site

As found in the preservation study conducted by Auhl (1978), the site is relatively secure from any major threats. The Burra Creek has been known to flood considerably in the past, however as Welsh Creek is a tributary and sites in this location are likely to be more secure against water erosion.
8.22 Cultural Significance

Cultural significance for the Burra Creek was identified by Auhl & Gilbert (1978) in three ways.

a) Historical Significance:
   a) National / State: ‘As an archaeological area of great interest and significance directly related to Australia’s earliest mining era [1841 - 1851].’
   b) Local: ‘As having played a vital role in the history of Burra both in the mining and post-mining period as:
      Mining period: i) residential site for many miners within its banks.
      ii) in providing red gum timber for the smelters.
      iii) Used as a drain for dewatering of the Burra mine.
      Post-Mining period: i) As a link between the townships of Kooringa, Redruth and Aberdeen.
      ii) As a walkway (Jubilee Walkway).
      iii) As an area for the activities of children.

b) Present Significance:
   a) As a recreational area.
   b) As a ‘natural’ area.
   c) As a tourist area.

c) Future Significance:
There are many different values and concepts identified for the future significance of the Burra Creek with the main focus of providing relaxation for the people and township of Burra. However, alluding to the Miner’s Dugout under study, Auhl & Gilbert (1978, p.75) perceive future significance for the site as:
‘an archaeological sub-precinct set aside for the investigation, excavation and gradual reconstruction of the colony of dugouts which once occupied this particular area. This could, with the reconstruction of the Bon Accord Mine and of Morphett’s engine house give Burra a unique standing as an international tourist attraction’. All three sites, the Bon Accord Mine, Morphett’s engine house and the (Welsh Creek) dugouts have since been developed into tourist products.

8.22 Recommendations
As 'reconstruction' is the main objective of considering the dugouts this should be the main focus of archaeological activity. However definitions of 'reconstruction' used in the conservation study may not be the same as the one identified by Hodder (1993) as 'interpretation of entire cultural processes'. To the Burra conservation study (Auhl 1978) 'reconstruction' might mean to replace the past to 'as it was'. Outcomes need to be clearly identified if products are to be created from them. One cause of concern that came from the cultural tourism students was the issue of authenticity. When students found out that the dugouts were more recent reconstructions the site seemed to somehow lose 'value' as students had initially assumed that the dugouts were 'original'.

8.23 Mitchell Flat Site

The site is located on the banks of the Burra Creek and is some 12,287 square meters in size. This undeveloped land is owned by the Regional Council of Goyder and is on the corner of George Street and Mitchell Flat (refer to figure 22).

The area is marked by a dilapidated barbed wire fence along its northern and eastern parameters and the Burra Creek flows along its western edge. There is evidence of rubbish dumping on the site, largely local rubbish dumped illegally. Figure 22 indicates the locations of collapsed dugouts on the site (Anson 1998):
8.24 Methodology
The site was surveyed using the total station and a general search of the area was conducted looking for and recording any surface material. Features in the Creek embankment were also recorded.

8.25 Environment Description
To the northwestern end of the site there is a plateau on which a large pepper tree (*Schinus molle*) is prominent and is covered by a range of dry grasses. The vegetation coverage is nearly complete occasional exposure of the red / brown earth beneath. Bulrushes densely marked the width of the Creek. The plateau extends to the east to the Pig and Whistle crossing which has water markers which rise two meters above the road, suggesting the potential height of the river to rise some three meters above the level that it was at the time of the survey. Some fourteen collapsed dugouts were identified along an embankment that is on an estimated slope angle of between 30 and 35 degrees.

8.25 Current Maintenance
The site is burnt off annually to reduce the fire hazard, clearing the paddock of dry weeds.

8.26 Surface Material
There was a range of rubbish on the site from a rusted and twisted perambulator to old tyres and children’s toys. 19th century ceramic material material was found in two places and recorded. However, when the material was deposited at the site could not be determined.

8.27 Threats to the site
The flooding potential of the Burra Creek contributes a major factor in erosion to the site. Further dumping of rubbish.

8.28 Historical Background
The original plans laid down for the township of Kooringa in 1849 by the South Australian Mining Association allocated Reserves along the banks of the Creek. These reserves provided a source of accessible wood for the population living in the dugouts.

Historical accounts suggest the whole length of the Burra Creek was referred to as ‘Creek Street’ and was riddled with dugout dwellings. In 1851 some 40% of the town’s population lived in the dugouts, made up of 340 families and 653 children. Allocated as Reserves, the length of the Creek offered the only accommodation that didn’t attract company rents in the township. Living conditions on the Creek contributed to outbreaks of smallpox, typhus and typhoid fever and during floods displaced many people. Earliest accounts of the dugouts appear in the *SA Register* from about 1850...
and as late as 1859 and 1860. After major floods in June 1851 which washed away many dwellings along the creek and resulting in disruptions to mine operations, the Secretary of the South Australian Mining Association issued orders refusing employment to anyone living in the Burra Creek. Occupants in the Creek Dwellings were given twelve months move. A few days later news of the discovery goldfields near Bathurst in New South Wales reached Adelaide, to which many miners left. This freed up housing in the township and after 1851 Burra’s population had peaked. In subsequent years discoveries of copper on Yorke Peninsular also attracted miners from Burra as well as other mines along the copper road such as Kapunda.

8.29 Recommendations: Creating products from Mitchell Flat

Initial aims of the Burra Dugout conservation study was to see how the information collected from the Welsh Creek site could be used in the interpretation of the Mitchell Flat site.

As reconstruction has been identified as part of the future significance for the site (Auhl & Gilbert 1978, p.75), there is the suggestion that the Mitchell Flat site be 'reconstructed' to create a colony of dugouts and used as a tourist attraction. There are a number difficulties in achieving this 'reconstruction'.

Given the angle of the embankment (30-35 degree slope) establishing permanent access for visitors to the site becomes increasingly difficult as safety for visitors is of paramount importance. Additionally, uncontrolled flooding of the area will result in the erosion and perhaps destruction of any interpretative material placed on the site. Any reconstruction of the dugouts in terms of recreating the site to what it once was presents a series of problems. Reconstructing the dugouts using historical methods presents problems in maintenance and preservation, the nature of these dwellings are openly exposed to severe erosion, and require constant maintenance. Modern building materials should be incorporated in any reconstruction of the dugouts, in order to make the site safe for visitors as well as reduce erosion to the site.

There are a number of different options that can be selected for the Mitchell Flat site, which currently is a fire hazard and is not productive in any way to the local economy or community. Some of these are suggested below.

**Option One:** Leave the site as it is until further ideas and plans can be developed.
**Option Two:** Develop a natural area with trees and grasses for seasonal visitor access to the site. Landscaped grasses and trees are suited to withstand flooding from the creek, and create a natural green environment that locals and visitors can make use of.

**Option Three:** Conduct seasonal excavations of the site which may produce artefacts which may then be incorporated with the Welsh Creek dugouts or into the other four museums.

While replicas of these artefacts can be easily obtained, there is an emphasis in the visitor experience for authenticity of products. As the dugouts are later reconstructions and not original dugouts from last century, authentic dugout artefacts are needed, no matter how badly they are preserved, so long as they can be definitely identified as being real dugout artefacts. It is difficult to say how much material can be excavated from such a site, as it is exposed to flooding. The location of the Mitchell Flat site in terms of the whole of Burra Creek however, indicates that it may be the best site to salvage any possible remains from the dugouts. This is due to the presence of a large plateau to the north western side of the creek (refer to figure 18) which in times of flooding may have reduced the speed with which water travels down the course of the Burra Creek, allowing deposition of heavier material. At this stage without excavation it is difficult to know whether material recovered from the site would have been buried *in situ* or alluvial deposits.

**Option Four:** To conduct excavations for artefacts (similar to Option 3), and to allow access and promote the excavations to visitors and locals. The excavations would be promoted as a seasonal event for visitors and locals to witness and get involved with. This is to value added to the visitor experience in the short term and increase the value of the attraction. In order to achieve this option, safe access to the site for visitors, as well as provision of guides to control visitor movements are required. In this case, the archaeological excavation becomes an 'event' in the Heritage Trail, which promoted well in advance can be measured in terms of contributions to the visitor numbers using the passport key and to the visitor experience. Furthermore, products other than artefacts can be developed from the excavation such as video footage than can be used to further compliment the Welsh Creek dugout either on the site or used in the visitor information centre. Using the Mitchell Flat site to stage an attraction 'event' also provides a great platform to sell and market other products such as information booklets about Burra and the Burra Creek as well as souvenirs. There is a great
merchandising potential in this area. Ideal times to run the 'event' or excavation would be during peak visitor season and peak passport sales times—October, September and April, however considerations need to be made for weather conditions for excavation, ie school holidays.

These options may also be incorporated together in an overall strategy, where excavations are conducted to produce artefacts as well as creating an 'event' to attract visitors. After excavations of the site have been complete (some sites should be left untouched for future use) a nature reserve may be constructed for long term use. A small interpretative plaque can be erected and reference can be made to the Welsh Creek dugouts. This means that the Mitchell Flat site will not be the major focus of a dugout reconstruction. The focus should remain on Welsh Creek if any reconstruction is to be considered, and the Mitchell Flat site should used aid that process. The Welsh Creek site is better positioned away from the main Creek and is less likely to suffer severe erosion during flooding. Though the dugouts are not original, they provide a visitor experience that can be added to by the display or inclusion in the Heritage Trail of real dugout artefacts.

8.30 Interpretation—Some suggestions from the archaeological survey

Current interpretation of the Welsh Creek Site— in the guidebook on the Burra Heritage Trail:

1. The early rapid development of the Burra Mine led to a shortage of housing.
2. In 1851, about 1,800 people out of a total Burra population of 4,400 lived in hundreds of dugouts along Burra Creek and its tributaries.
3. In 1851 a flood devastated 'Creek Street', driving the inhabitants from their dugouts. By 1860 the dugouts were virtually deserted.
4. Two dugouts survive under the care of the National Trust.

Suggestions:

Line 1. While this statement is true, it should be added that the creek area was the only section in town that did not attract company rents.

Line 2, which describes the number of people living in the dugouts from the population census of 1851 might be better perceive in terms of percentages. For example, 'In 1851 about 40% of Burra's population lived in hundreds of dugouts along the Burra Creek and its tributaries'.
Something should be mentioned about the company policy of refusing employment to anyone who lived in the dugouts after the June 1851 flood. As a result many miners left Burra soon afterwards for the goldfields in New South Wales. Line 4 implies that the dugouts are original, as they have 'survived'. Though it has not been expressed as being original, its implications may compromise the authenticity of the visitor experience.

Some concepts around the mining theme that might also be explored include:

a) The innovation with which the early miners and their families dealt with housing shortages and company rents by creating dwellings in the creek.

b) That the appalling conditions of the Creek dwellings is also a reflection of the many dwellings on Australia's goldfields that came soon after.

c) That the Mining Company was unsympathetic to the plight of miners and their families in times of flood. Having initially brought them out to South Australia from Cornwall, Wales and England the Company refused to sell any freehold land until 1872.

8.31 Conclusion

The information product that was produced from the student survey of the two miner dugout sites (Anson 1998) directly contributed to the Conversation Study. As a result, the National Trust and the District Council have a much better idea and understanding of the cultural resources available at both sites. Depending on the future planning, the outlines of which have already been expressed in previous research (Auhl & Gilbert 1978, Lester, et al. 1978), both the National Trust and the Council are in a better position to make management decisions on how the sites should be managed in the future. This is a direct benefit that archaeological outcomes (products) have produced and thus have value added to the conservation study.

The archaeological survey was also a benefit for Flinders University as it created an opportunity for archaeology students to work towards producing viable products that will be used to contribute value to heritage and a local economy. It value added a hands on field component as part of a subject for students who participated. The survey crew from Flinders numbering some twenty students and teachers also contributed to the local economy over a period of five days, through expenditure on goods and services while in Burra.
There is great potential for future archaeological activity, as the April 1998 survey added value in a number of different ways to those concerned. As a result of the of the Burra trip and the research undertaken in this thesis a video has been produced, which can be seen as a product of the archaeological activity.

The short video will be passed onto the Burra Visitor Centre and is an additional product to the survey activity conducted by Flinders University.

The potential to develop new visitor products by using the cultural resources available at the Mitchell Flat site can generate increased benefits to the local community through tourism. To archaeology, the Mitchell Flat site represents a broad range of research possibilities, however, the local agenda for using those resources may be different. The reopening of the mine in 1971 is an example of this, the local community chose to use the mineral resources of the site over its cultural resources, mitigating the losses with some restoration of cultural material. For the District Council, the Mitchell Flat is currently disused and a fire hazard, requiring annual maintenance. By applying a production approach, archaeology can play an integral role in creating products from the site which can benefit the local economy. As the products are made for people, archaeology can process the cultural resources available on the site for people to use. This affects the preservation of the site. Identifying a use value for a site which incorporates its cultural material evidence is a benefit in the preservation of that cultural resource.

In the process of building a tourism product archaeology can contribute interpretative value to a site, which gives it a cultural value. The archaeologist is the middle person between the material evidence of past culture and the heritage manager who maintains and preserves the site. Given this position, archaeology, applying a production approach which focuses on creating products has the potential to contribute more from the Mitchell Flat site to the National Trust and the District Council, than archaeology solely driven by academic and legislative requirements. This is largely because the focus is on the community and their interests on how they wish to utilize and use their cultural resources.

9. Discussion

The ideas presented in this thesis have a number of significant implications for archaeological practice. Firstly, that archaeology can produce economic benefits. This is important in order to balance the value of investing in the preservation of cultural resources from a public perception.
Furthermore, by adopting a production approach it is possible to standardize the process, to which issues such as quality and efficiency of archaeological activity can be measured. It also makes it easier to package the 'service' of archaeological practice, making archaeology more user friendly for stakeholders. If archaeological practice focuses on creating products for stakeholders, then there is a much greater potential for archaeology and the messages that it espouses to reach the wider community.

Some of the issues that have been identified in this thesis include the use of archaeological information and the way in which it is stored. Standardization of databases is important as the quality of previous archaeological practice may be rendered useless should old data sets be incompatible to new data sets. More research is required in the area of identifying more suitable database models that can be integrated with each other.

Technology impacts on the manufacturing process. This is an area for future research in regards to archaeology. For example, implications for 'virtual artefacts' by using scanning systems that reproduce images in Computer Aided Design (CAD) and that can be switched to Computer Aided Manufacturing (CAM) systems. This will alter the way in which artefacts are recorded, stored, preserved and duplicated.

There is a growing need for archaeological practice to go beyond academic or legislative requirements, as outcomes produced from these activities are not necessarily seen as serving the public. The duty that archaeological practice has to the greater public is to make cultural resources accessible to the public in an ethical manner and to convey the importance of those resources. So long as archaeological practice remains within research and legislative roles, this access will continue to be taken advantage of by opportunist and treasure hunters who may operate unethically. It is not professional archaeology that is filling the gap in public demand for cultural resources, but these opportunists and treasure hunters who are producing products from archaeological sites. These products include television programs and mail order artefacts and reproductions. It is these mediums that have a greater impact on public perceptions of the past, more than academic or legislative archaeological organizations. In order to compete, archaeological practice needs to create new opportunities by destroying old ones. So long as practitioners live within the sphere of academia, research or legislation, they will not reach the public.
By constructing a production model for archaeological practice it is possible for professional and ethical archaeology to create products that compete with productions that are non-ethical in both the ways they are produced and the messages that they transmit. If a television program on treasure hunters shows people souveniring artefacts from a site, then the message that goes out to the public is that that sort of behavior is acceptable. Archaeological practice, if it is to address these unethical and unacceptable messages, needs to be able to produce products of either equal or higher standard to compete against products created by non-ethical organizations. The importance of this task cannot be emphasized enough, with limited and non-renewable cultural resources under constant threat the message of preservation and conservation are more significant now than ever.

By looking at archaeological practice as a means to create products that are designed for people, archaeology has the means to get the 'right' message across to the public.
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Appendix II  

Market use values of archaeological products

1. Cultural Resource processed for stakeholders by archaeological practice

The Site
Archaeological process

Information  Process  Artefacts

Education

Market use values

Legitimation of action
Scientific & Archaeological Research

Creative Arts
Symbolic representation & social solidarity and integration

Recreation & Tourism
Cultural Resource Management
Tour operator
Visitor Experience (Product)

Target consumers
General Public

Target consumers
General Public

Stakeholder desired use value of the site and the archaeological product. New industries use archaeological products to value add to create new products/ outcomes.
Appendix III: Flow diagram representing key steps in interpretative planning for visitor management

BROADSCALE PLANNING:
1. Determine aim of using interpretation in Visitor Management (Corporate objectives)
   a) develop goal / mission statement
   b) develop achievable objectives

STRATEGIC PLANNING:
2. Review heritage resource
   a) identify relevant resource management issues
   b) identify visitor management issues
   c) determine which characteristics are available for interpretation
3. Structure what will be communicated
   a) develop concepts
   b) develop themes incorporating concepts and resource
   c) develop messages using above
4. Define audience
   a) identify existing audience profiles
   b) identify target audience profiles
5. Develop visitor experience selection / review criteria
   a) type of experience
   b) target audience
   c) target messages
   d) cost (short v s long term)
   e) resource condition & environmental impact
   f) duplication of message & experience
6. Link messages to audience profiles (refer to 2.)

IMPLEMENTATION
7. Design proposals & standards (include info layering)
8. Review proposals against selection criteria
9. Product products (text, design, layout & quality)
10. Commence marketing (using 4.)

FEEDBACK:
11. Monitor performance, evaluate (using 5.), modify

Reproduced from McArthu & Hall, Heritage Management in Aust. & N.Z., pp:32 (table 2,3)
NATIONAL ESTATE GRANTS PROGRAM
APPLICATION FORM

- Please read all the questions and the attached Notes for Applicants, Notes on Eligibility and Priorities sheets before you start to fill in the form.
- Please type your application if possible. If you want to use a computer to write any items, make sure that your blocks of text are the right size and paste them into the spaces on the form.
- If you are repeating an application that was unsuccessful in a previous year you must fill out a new form in full.
- If an item is not applicable to your particular project put "N/A".
- Send the original and two copies of your application to the NEGP Administrator for the State or Territory where the project is located (for an address see the attached Notes for Applicants).

APPLICATIONS CLOSE FRIDAY 29 MARCH 1996

1. SUMMARY - FILL IN THIS SECTION LAST

- TITLE OF PROJECT (from Section 4): BURRA CREEK DWELLERS - DUGOUT CONSERVATION STUDY
- STATE/TERRITORY where the project is located: SOUTH AUSTRALIA
- APPLICANT'S NAME (from Section 5): DISTRICT COUNCIL OF BURRA BURRA/NATIONAL TRUST
- HOW MUCH ARE YOU ASKING FOR IN THIS APPLICATION? (from Sections 14 and 17)
  Year 1: ____________ Year 2: ____________ Year 3: ____________ TOTAL: $9,000.00
- WHAT IS THE TOTAL VALUE OF THIS PROJECT? (from Section 14): $12,000.00
- IF YOUR APPLICATION IS SUCCESSFUL, HOW LONG DO YOU EXPECT TO TAKE TO FINISH THE PROJECT AFTER A GRANT AGREEMENT IS FINALISED? (from Section 17): 3 months
- WHAT ASPECTS OF THE NATIONAL ESTATE DOES THE PROJECT RELATE TO? (Mark all relevant boxes)
  - Natural places
  - Aboriginal/Torres St Islander places
  - Historic places
  - Conservation work at a particular place
  - Conservation planning or study of a particular place
  - A survey of a wider area or a survey of a particular type of place
  - Community or Professional Education
  - Other

A "place" may range from a single property to a related group of sites or a larger area.
- SUMMARY - Summarise the project in less than 50 words (from Sections 12 and 13):
  PREPARATION OF A CONSERVATION STUDY FOR THE CO-ORDINATION OF FUTURE IDENTIFICATION, CONSERVATION, RESTORATION AND INTERPRETATION OF TWO PLACES CONTAINING EXAMPLES OF THE BURRA CREEK DWELLERS DUGOUTS ALONG THE BURRA CREEK AND TRIBUTARY.

- HOW DOES THE PROJECT RELATE TO THE NEGP PRIORITIES? (Refer to the codes on the NEGP Priorities sheets)
  H.14 SITE SPECIFIC STUDY FOR THE CONSERVATION OF A GROUP OF PLACES - BURRA CREEK AND TRIBUTARY DUGOUTS SITES.

- PERSON MAKING THIS APPLICATION: S.J. KERRIGAN
- POSITION/ORGANISATION: DISTRICT CLERK
- SIGNATURE: ____________________________
- DATE: 26/3/96
2. DETAILS OF THE APPLICANT

The applicant is the person or organisation that is filling in this form and intends to actively manage or carry out the project.

- NAME: MR. SJ. KERRIGAN
- ORGANISATION: DISTRICT COUNCIL OF BURRA BURRA
- ADDRESS: 1 MARKET SQUARE BURRA SA 5417
- CONTACT PERSON & POSITION: STEPHEN KERRIGAN, DISTRICT CLERK
- PHONE: (08) 88922100

- IS THE APPLICANT A GOVERNMENT BODY? [YES]
  (Includes Government departments, statutory authorities, Local Councils)
- IS THE APPLICANT A LEGALLY INCORPORATED NON-PROFIT-MAKING BODY? [YES]
  (If YES, go straight to Section 4.)
  (If YES, go straight to Section 4.)

If you answered NO to both these questions you CANNOT receive a grant directly. YOU MUST COMPLETE SECTION 3.

3. DETAILS OF SPONSOR FOR AN APPLICANT WHO IS NOT DIRECTLY ELIGIBLE

- If the applicant is not a government body or a legally incorporated non-profit-making body, you must name a sponsor that has agreed to be legally responsible for grant money. The sponsor must itself be eligible - that is, the sponsor must be a government body or a legally incorporated non-profit-making body. Potential sponsors can contact your State or Territory NEGP Administrator or the Australian Heritage Commission for advice about what their responsibility involves.

- SPONSORING BODY
- ADDRESS
- AUTHORISED PERSON & POSITION
- PHONE
- SIGNATURE OF AUTHORISED PERSON
- DATE

4. DETAILS OF THE PROJECT

- TITLE OF PROJECT: BURRA CREEK DWELLERS - DUGOUT CONSERVATION STUDY

(Sections 5-9 mostly relate to projects that involve a particular place. Answer where applicable.)

5. LOCATION

- REGION/TOWN/ SUBURB/LOCALITY: BURRA
- NAME OF PLACE: FORMER MINER'S DUGOUTS/FORMER DUGOUT SITES
- STREET ADDRESS OR DETAILED LOCATION: BLYTH STREET/GEORGE STREET BURRA
- LOCAL GOVERNMENT AUTHORITY: DISTRICT COUNCIL OF BURRA BURRA
- LAND TITLE INFO if known (eg County, Parish, Portion, lot no., Deposited Plan): LOTS 308 & 309, RESERVE, LOTS E & K OF PT SEC. 1.
- TOPOGRAPHIC MAP REFERENCE if relevant

- SITE PLAN - If possible, please attach a site plan and/or a photocopy map extract, no bigger than A4 size, showing the site.
- PHOTOGRAPhS - If it is useful, please attach no more than three postcard size photographs showing the site. Please paste them to a single sheet of A4 size paper.

If the project involves conservation work on a particular place, or conservation planning to prepare for work, the place must be listed in the Register of the National Estate or the Register's Interim List. Contact the Australian Heritage Commission to check this.
6. **OWNER**

- **OWNER'S NAME:** DISTRICT COUNCIL OF BURRA BURRA/NATIONAL TRUST
- **OWNER'S ADDRESS:** C/- 1 MARKET SQUARE BURRA SA 5417

- LEASE - Give details of any current lease or permissive occupancy arrangements.

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7. **HERITAGE LISTINGS**

- **IF THE PROJECT RELATES TO A PARTICULAR PLACE**, show existing legal protection or authoritative heritage listings. Mark all relevant boxes. Please check your information first.

| Register of the National Estate or RNE Interim List | Gazette Historic Reserve |
| State or Territory Gov't Aboriginal Sites Register | Heritage Agreement/Wildlife Sanctuary |
| State or Territory Gov't Heritage Register or equivalent | National Trust Register |
| Local Government Authority Heritage List | Other |
| National Park or equivalent reserve | WITHIN BURRA TOWN STATE HERITAGE AREA |

---

8. **HERITAGE SIGNIFICANCE**

- **IF THE PROJECT RELATES TO A PARTICULAR PLACE**, briefly say why the place has heritage significance.

THE BURRA DUGOUT SITES ARE CONSIDERED TO BE OF IMPORTANCE TO BURRA, STATE AND NATIONAL HERITAGE, PROVIDING A SIGNIFICANT RECORD OF THOSE WHO CONTRIBUTED TO THE ECONOMIC GROWTH OF THIS STATE.

---

9. **APPROVALS NEEDED**

- **WHOSE PERMISSION DO YOU NEED BEFORE YOU CAN CARRY OUT THE PROJECT?** Mark all relevant boxes.

- Land owner (if different from the applicant)
- Aboriginal/Torres St Islander community
- Local Government Authority building/planning approval
- State or Territory Heritage Authority
- Other

A National Estate Grant does not override other planning regulations. If we offer you a grant you will have to provide proof that you have the necessary approvals.

---

10. **CONSULTATION WITH ABORIGINAL/TORRES STRAIT ISLANDER COMMUNITIES**

- **DOES THE PROJECT INVOLVE ABORIGINAL OR TORRES STRAIT ISLANDER PLACES?**  

  - **NO**

  If NO, go straight to Section 11.

- IF THE PROJECT INVOLVES THE IDENTIFICATION, DOCUMENTATION, CONSERVATION OR PROMOTION OF ABORIGINAL OR TORRES STRAIT ISLANDER PLACES, you must attach written evidence that the relevant Aboriginal or Torres Strait Islander custodians know about and support the application. Briefly describe what you are attaching.

---

11. **OTHER CONSULTATION**

- **BRIEFLY DESCRIBE ANY CONSULTATION** that you made in planning the project (e.g with Local Council, schools).

---
12. DESCRIPTION OF THE PROJECT

• AIM - What do you hope to achieve by carrying out this project?

  PRODUCTION OF A CONSERVATION STUDY

• JUSTIFICATION - How will the project benefit the National Estate?

  PROTECTION OF AN AREA CONTAINING SITES OF NATIONAL HERITAGE AND
  CULTURAL SIGNIFICANCE.

• DESCRIPTION - Exactly what will you do and how will you do it? What methods, techniques and stages will you use?

  PREPARE PROJECT BRIEF AND ENGAGE CONSULTANT.

  PREPARE CONSERVATION STUDY
    - PREPARATION OF DRAFT
    - CONSULTATION WITH COUNCIL AND NATIONAL TRUST
    - FINAL STUDY

• RESULTS - What will the project produce? (eg report, conserved site, nominations to the Register of the National Estate)

  CONSERVATION STUDY

• RELATED WORK - Is this project related to any recent or planned similar work (eg other work on the same site, or a related research program)? Does it duplicate other work?

  NO DUPLICATION
13. ADDITIONAL QUESTIONS FOR EDUCATIONAL PROJECTS

If your project relates to community or professional education about the National Estate, answer these questions -

- WHO IS THE TARGET GROUP? BURRA COMMUNITY, CULTURAL VISITORS, BURRA COMMUNITY SCHOOL

- WHAT ARE THE SPECIFIC OBJECTIVES? What behaviour, skills and knowledge will the project foster?
  IMPROVED KNOWLEDGE AND INTERPRETATION OF THE PLACE THROUGH THE PREPARATION
  OF THE CONSERVATION STUDY.

- DESCRIBE PLANNED PUBLICATION, DISTRIBUTION, PROMOTION, including expected revenue (if any).
  DISTRIBUTION OF BURRA COMMUNITY SCHOOL AND BURRA COMMUNITY LIBRARY/LOCAL
  HISTORY ROOM.

- EVALUATION - How will you find out how successful the project has been in achieving its objectives?

REMEMBER - to be eligible, a project must relate directly to the National Estate. Please read the separate notes on Eligibility.

14. PLANNED INCOME, CONTRIBUTIONS

- HOW MUCH ARE YOU ASKING FOR IN THIS APPLICATION? (See notes on staged funding in Section 17)
  Year 1: \( \ldots \) Year 2: \( \ldots \) Year 3: \( \ldots \) TOTAL: \( \ldots \) A) $\ldots$

- OTHER CONTRIBUTIONS - Other things being equal, we may give preference to a project
  where you show your commitment by making your own contribution or arranging other
  financial assistance. Give details here.

1. Other Government funding program - name: \( \ldots \) confirmed: \( \ldots \)
  - applied for but not confirmed (don't include amounts already included in Item B): C) $\ldots$

2. Other funding source - name: \( \ldots \) confirmed: \( \ldots \)

3. Applicant's own money: \( \ldots \) E) $\ldots$

4. Value of applicant's non-money contribution (such as project management, voluntary labour): \( \ldots \) F) $\ldots$

- TOTAL VALUE OF THIS PROJECT (add up Items A-F) -
  TOTAL $\ldots$

Make sure your figures agree with the figures you give in Sections 1, 15 and 17. The total you give here does not include the value of any other projects or related work that you may mention in Section 12 and Section 16.

** IF YOU HAVE MADE AN ENTRY UNDER ITEM F (value of applicant's non-money contribution), please give details justifying the amount (eg expected hours multiplied by a normal wage rate for equivalent paid labour) -
15. PLANNED EXPENSES

- Give a detailed estimate of how you will use: the NEGP money; other money; your non-money contribution. (For example, estimated hours and hourly rates, estimate of building costs, travel, printing, contingencies). Cost estimates for living expenses, travel, vehicle use, accommodation and consumables should not exceed the rate allowances recommended by the public sector in your State or Territory. Relevant award rates applying in your State or Territory should be used to calculate the cash value of voluntary labour.
- If there are major non-NEGP contributions, try to arrange the project so that the NEGP money is used for a clearly identifiable part of the work.
- If you wish attach evidence of quotations or estimates copied onto A4 size paper.
- Note: NEGP money is not usually given to buy things that will still be usable after the project finishes (such as vehicles, cameras, computers). You should hire or borrow these things or buy them with other money. If it is essential, and other options are not available, a grant may be possible subject to conditions governing the use and disposal of the equipment afterwards.

<table>
<thead>
<tr>
<th>PROJECT BRIEF</th>
<th>1,000.00</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONSERVATION STUDY PREPARATION</td>
<td>11,000.00</td>
</tr>
<tr>
<td></td>
<td>$12,000.00</td>
</tr>
</tbody>
</table>
16. PREVIOUS NEGP FUNDING

- We may consider whether your previous NEGP projects have been completed satisfactorily. Please show previous projects that have received NEGP funding. Include only projects within the last 5 years, the most recent completed projects.

1. Previous NEGP funding (as far as you know) for a related project (e.g., for work on the same place, or for related research):

<table>
<thead>
<tr>
<th>YR</th>
<th>PROJECT</th>
<th>NEGP GRANT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2. Previous NEGP funding given to this applicant:

<table>
<thead>
<tr>
<th>YR 1989</th>
<th>PROJECT</th>
<th>NEGP GRANT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>BURRA SMELTING WORKS &amp; ARCHAEOLOGICAL SURVEY</td>
<td>12,000.00</td>
</tr>
</tbody>
</table>

3. Previous NEGP Funding for work by the proposed consultant(s) (if you have already chosen them. See Section 19):

<table>
<thead>
<tr>
<th>YR</th>
<th>PROJECT</th>
<th>NEGP GRANT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

17. STAGED FUNDING: PART FUNDING

- IF YOUR APPLICATION IS SUCCESSFUL, HOW LONG DO YOU WANT TO TAKE TO FINISH THE PROJECT AFTER A GRANT AGREEMENT IS FINALISED? 3 months

- STAGED FUNDING - You may want to spread the project over several years. Or we may want to fund the project, but not all at once. If it is desirable or possible to spread the project over several years, suggest how you could do this. Make sure that your figures agree with the figures you give in Sections 1, 14 and 15.

<table>
<thead>
<tr>
<th>YR 1</th>
<th>Proposed NEGP Funding: $9,000.00</th>
<th>Value of other contributions:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>What will this allow? COMPLETION OF PROJECT</td>
<td></td>
</tr>
<tr>
<td>YR 2</td>
<td>Proposed NEGP Funding:</td>
<td>Value of other contributions:</td>
</tr>
<tr>
<td></td>
<td>What will this allow?</td>
<td></td>
</tr>
<tr>
<td>YR 3</td>
<td>Proposed NEGP Funding:</td>
<td>Value of other contributions:</td>
</tr>
<tr>
<td></td>
<td>What will this allow?</td>
<td></td>
</tr>
</tbody>
</table>

We may agree to fund the entire project (subject to your satisfactory completion of each stage), or to only fund particular year(s). If we opt for the latter you will need to reapply for further funding.

- PART FUNDING - We may want to fund the project, but not with the full amount you are asking for. If you wish, suggest how you could cut back the project but still have a worthwhile project which contributes to the goals of the NEGP.

18. FUTURE MAINTENANCE OF THE SITE (for conservation or restoration projects)

- What provision will be made for security of tenure and on-going maintenance of the place after this project finishes?

  CONTINUING OWNERSHIP AND MAINTENANCE BY COUNCIL AND NATIONAL TRUST.

- Will the project improve the ability of the place to earn money? If yes, give details.

  NO
Appendix V: Businesses in Burra over the last twenty years. Burra Trader's Association

Banks
1996 ANZ bank closed
1996 Bank SA reduced hours and services- No Manager
1997 Locals researching possibilities of establishing a Credit Union
1998 National Australia still operating with full services

Local & State Offices
1994 Telecom depot closed
1994 Electricity depot closed
1997 Department of Roads closed
1997 Amalgamation of 4 Councils- Burra Burra, Hallet, Robertstown, Eudunda

General Retail
1988 2 Butcher shops
1997 1 Butcher shop closed
1986 two large emporium stores close- owners retiring
1996 Shoe shop closed
1990 Clothing shop with own label opens and distributes Australia wide

1998 One baker
1977 two supermarkets
1998 One supermarket
One chemist
One Newsagent
One Furniture shop
One hardware store
Two fruit and vegetable stores
Two hair dressers
Two service stations

Post Office- Now privatised

Health Hospital One Doctor
One Dentist - One day per week

Education Area school To year 12
Recent expenditure on development of Aqua science facilities

Police Three Officers
1986 Court facilities closed- moved to Clare, regional centre

Hotels 1998 5 Hotels, left over from the mining days
All hotels struggle, and frequently change hands

Bed and Breakfast
1983 32 cottages were opened by the Council for B & B
1998 An additional 18 B & B places added over 15 years
400 beds available in town
1 Camp caterer, principally for schools groups & Backpackers

Churches
3 Churches, United, Anglican and Catholic
Lutheran Pastor has been withdrawn
Travel Agencies
Some Stock agents involved in travel bookings
The Visitor Centre, National Trust Burra, is the main booking agency

Mechanics
Two workshops, along with some backyarders
One panel beater
1997 Lost RAA service

Sport facilities
Golf Club
Tennis Club
Basket Ball
Net Ball
Indoor Cricket
Cricket Club
Squash courts
Table Tennis
Dog Obedience
Pony Club

Boutique Shops
Five shops, with the exception of one, all have been operating since 1986
Antique Fair held in May of Every Year
<table>
<thead>
<tr>
<th>Month</th>
<th>1st</th>
<th>2nd</th>
<th>3rd</th>
<th>4th</th>
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<tbody>
<tr>
<td>May</td>
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<td>November</td>
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<tr>
<td>October</td>
<td>13</td>
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Data on Bunra Visitors & Passports held from the Bureau Visitor Information Centre

Appendix V1
Appendix VII

GOODS AND SERVICES AVAILABLE IN BURRA FOR VISITORS

BURRA VISITOR CENTRE

SHOPPING
- Beaut Fruit
- Burra Bazaar
- Burra newsagent
- Foodtown
- Luck Dip
- McPhee's Butchers
- Saltbush Clothing
- Wilkinson Pharmacy

WALKING TRAILS
- Burra Mine Precinct
- Burra Gorge
- Burra Smelling Works
- Heysen Trail
- Redbanks

TOURS / GUIDED WALKS
- Town and Mine Tour
- 4 x 4 Wilderness Adventure
- Covered Wagon Ride
- Torchlight Cemetery Walks

CHURCH SERVICES
- Anglican
- Catholic
- Lutheran
- Uniting

ATTR ACTIONS
- Burracas Alpaca Farm
- Burra Gorge
- Burra Passport
- Dare's Hill Scenic Drive
- Martindale Hall
- Mongolata Gold Mine
- Mongolata Gold Shop
- Redbanks Reserve
- Ryan's Deer Farm

FOOD / WINE, ACCOMMODATION
- Bon Accord Hotel
- Burra Hotel
- Commercial Hotel
- Kooringa Hotel
- Royal Exchange hotel
- CAFES & ROADHOUSES
- Burra Bakery
- Country Pantry
- Joe's Super Snacks
- Jumbucks
- Market Square Snack Bar
- Mobil Roadhouse

MUSEUMS
- Bon Accord Mining Museum
- Malowen Lowarth Cottage
- Market Square Museum
- Morphett's Enginehouse

ART AND CRAFT GALLERIES
- Burra Regional Art Gallery
- Burra Station Gallery
- Dip Rose Gallery
- Sweet Reflections

ANTIQUE SHOPS
- Antique Clock Shop
- Old Wares
- Pharaoh's Tomb
- Really Good Stuff
- Sara's
Appendix VIII  Interpretative Signage at the Miner’s Dugouts

This is a view of Burra Creek in 1850, looking south from a position opposite the mine entrance.

“The miners have for want of houses, excavated little caverns divided into apartments, in the steep banks of the creek. Many of these are filled up in the neatest style imaginable and form cool and comfortable habitations. They extend for about three miles on both sides of the creek”

The South Australian, 17 December 1847

The rapid development of the Burra Burra mine led to a shortage of housing for miners and their families.
The 1851 census recorded that out of a total Burra population of 4,400, about 1,800 lived in dugouts along Burra Creek and its tributaries. Of these over one third were children under fourteen years of age.

“The miners have excavated dwellings like rabbit holes...as thickly under the banks of the creek as they could be placed....Some have one room, others more, all have one or more chimneys, formed on the bank top, and in most cases of barrels cemented in mud...a few have shingled verandahs, and many are white washed outside; while some, in addition, are papered and carpeted within...”

Old Columnmist 1850

The insanity of living conditions of ‘Creek Street’ contributed to outbreaks of typhus, smallpox and typhoid fever. During 1851 there were 153 deaths in Burra, many of them young children in the dugouts. In June, 1851, a flood devastated the thickly populated creek driving the inhabitants from their dugouts and causing the death of a miner. By 1860 the dugouts were virtually deserted.

These are the only intact dugouts of hundreds which once existed in Burra. They are now under the care of the National Trust.
Appendix IX: Dugouts at Welsh Creek Site

Exterior
The exterior of dugout one has two entrances, the front wall constructed of stone and mortar with a large amount of earth piled nearly roof high against the front wall section between the two entrances. The roof is constructed of log timbers with earth piled on top.
Dugout 1 from the front
Interior
The eastern entrance leads to a small room which has one passageway which connects onto the larger room accessed through the second entrance. There is a small cavity in the middle of the passageway where another tunnel has been initiated, however abandoned soon after. The walling in room one is of stone mortar, with the passageway walling excavated out of the earth. The roofing is made up of log timbers and in Room 2 some concrete and fencing wire has also been used to strengthen the roofing. In terms of occupational health and safety for visitors, this dugout is relatively safe for controlled or low number visitor access. The wall structure in room two is made up of stone walling, except for the back wall where some concrete and wire fencing has been placed to prevent further erosion. A section of about two metres from the back wall has been fenced off, to prevent visitors from posing a threat to the erosion of the interior into the creek bank. A simple diagram (4) of the interior is provided below; Diagram 5- Interior of Dugout 1

Though the interpretive material suggests that this site is an authentic miner’s dugout, upon entering the dugout it becomes immediately apparent that some reconstruction has occurred, as in some sections the ceiling has chicken wire and cement. Anson (1998) found that the site had been constructed in 1973 and contained no original material.

Dugout 2 and Dugout 3

Exterior
The exterior walling of the dugout is made from a mixture of brick, cement, concrete and mud. Parts of the timber roofing, made from railway sleepers can be seen from the front exterior. Both dugouts have one window on the eastern side of the entrance. The similarity of design for the fronts of both dugouts suggests that they were constructed at the same time.

Diagram 6 - Dugout 2
Diagram 7 - Dugout 3

Interior
In both dugouts there is a small room before the entrance, constructed largely of stone and brick with mortar mixed with cement and mud. Both have locked gates preventing access into the main dugout rooms. The roofing is constructed from timber railway sleepers and in some areas chicken wire and cement has been used to further secure the roofing. Beyond the gate inside the dugouts, the rooms have been dugout from the creek bank, and each dugout has one chimney constructed of local stone and mortar with layers galvanized tin supporting the base of the chimney. At the top of each chimney a steel grill was originally placed perhaps to prevent people dropping rubbish into the dugouts, however since, the grill has been eroded and broken away. Inside dugout 2 sits a small table, and in dugout 3 the frame of an old steel bed sits in the northwestern corner of the room (diagram 8).

Diagram 8 - Inside Dugout 2 & 3

The reconstruction of these two dugouts appears to have been different from that of dugout 1
Interior
In both dugouts there is a small room before the entrance, constructed largely of stone and brick with mortar mixed with cement and mud. Both have locked gates preventing access into the main dugout rooms. The roofing is constructed from timber railway sleepers and in some areas chicken wire and cement has been used to further secure the roofing. Beyond the gate inside the dugouts, the rooms have been dugout from the creek bank, and each dugout has one chimney constructed of local stone and mortar with layers galvanized tin supporting the base of the chimney. At the top of each chimney a steel grill was originally placed perhaps to prevent people dropping rubbish into the dugouts, however since, the grill has been eroded and broken away. Inside dugout 2 sits a small table, and in dugout 3 the frame of an old steel bed sits in the northwestern corner of the room (diagram 8).
Diagram 8 - Inside Dugout 2 & 3

The reconstruction of these two dugouts appears to have been different from that of dugout 1 and it has been suggested that the site was constructed in 1953.
Appendix X: Heritage and local business

1. The revenue generated from site visits. This revenue contributes to the upkeep of the site and its preservation. Additionally it also creates employment.

2. As many heritage sites are not financially sustainable independently, they require funding from local business and government to maintain operations.

3. The heritage site operates as an attraction to bring visitors to the location of their businesses. Revenue generated here are from goods and services available in the local economy.

4. Revenue generated from employment at the site also filters back to the local economy in goods and services.