Fletcher’s Slip: a case study in the application of Multiple Perspectives Methodology in historical archaeology.

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October 22nd 2004
Summary

The Port Adelaide Waterfront Redevelopment is scheduled to surround Northbank Marine, a site formerly known as Fletcher’s Slip. Fletcher’s Slip played an important part in the maritime history and development of Port Adelaide. Therefore a study of this site, which may yet be redeveloped, seemed an appropriate research project. In looking at the documentary evidence and the physical remains of Fletcher’s Slip and Graving Dock it is the intention of this thesis to discover if possible the extent of the remains of the two sites, the documentary evidence available and whether the application of TOP to this evidence will allow a greater understanding of the integration of this evidence.
Declaration

I certify that this thesis does not incorporate without acknowledgement any material previously submitted for a degree or diploma in any university; and that to the best of my knowledge and belief it does not contain any material previously published or written by another person except where due reference is made in the text.

Ruth Jenkins
Acknowledgement

I would like to acknowledge the help given in the research for this thesis by the following people or organisations:

Philippa Fletcher
Ann Woods
Jack Waander
Jaan Lindsaar – Northbank Marine
Kingsley Hasckett
Land Management Corporation
State Library of South Australia
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Chapter 1  Introduction

Fletcher’s Slip once held an iconic place in the hearts of the people of Port Adelaide. It was the site of the first slipway, enabling full repairs and maintenance of the colonies ships and those visiting the colony. As a British colony which was reliant on sea travel for communication, trade and travel a functioning slipway was important for the colony’s development. Fletcher’s Slip has been much degraded by time and lack of maintenance as well as past redevelopment. It is currently surrounded by the planned Port Adelaide Waterfront redevelopment and may still become a part of it. As a site of historical significance which has not been fully recorded, physically or through documentary sources, this seemed an appropriate choice for archaeological research. To enable a full analysis of the information discovered through this research the Multiple Perspectives Methodology known as TOP was adopted. This theoretical framework brings together systems theory and the qualitative approach of the post-processualist school of thought. Whether this is a suitable framework for possible further application in the analysis of archaeological sites of the historical period will also be discussed. Fletcher’s is made-up of two current sites, Northbank Marine and a part of the Glanville Dockyards. The site of the two Slips has been traditionally known as Fletcher’s Slip. Although the site is now known as Northbank Marine for the purpose of this paper it will be referred to as Fletcher’s Slip. The first Slip built on the site was known as the Patent Slip and Fletcher’s Slip. To avoid confusion between discussion of the site as a whole and this first Slip it will be referred to as the Original Slip. The second Slip will be referred to by its proper name of the Dunnikier Slip. The Graving Dock will be referred to as such.
**Chapter 2  Theory Chapter**

**2:1 Literature Review**

Theory for the most part is careful thinking about the nature of the categories we routinely work with and the logic by which we draw inferences from them (Chippindale 1990, Pg. 464). Whether we are looking at a single artefact or at a series of archaeological sites, archaeologists are trying to learn more about the human past. In order to gain information from what is being studied the archaeologist interprets it. This interpretation is based on the object and on the theoretical approach of the archaeologist. In discussing the use of theory commentators such as Johnson and Chadwick state that some field archaeologists work stating that they have no interest in theory but instead want to get on with the archaeology, although many of them use it unwittingly (Johnson 1999, Pgs. 6-11, Chadwick 2003, Pg. 98). Others explicitly use theory as the basis for their archaeological work (Johnson 1999, Pg. 6).

In order to gain a full understanding of the development of the Slips and the failed attempt to develop a Graving Dock by Henry Cruickshank Fletcher (hereafter referred to as H.C. Fletcher) at Port Adelaide a theoretical framework is necessary. As Russell states, archaeology as a discipline has been looking to other fields of study for theoretical frameworks for decades (Russell 2004, Pg. 64). Gheorghiu describes the history of Western archaeology with relation to theory as a chronicle of intellectual borrowings (Gheorghiu 2003, Pg. 170). The theory that has been selected for this thesis is that of Multiple Perspectives Methodology, and more specifically the TOP Multiple Perspectives Methodology of Linstone from the field of Systems Thinking. Systems Theory has been applied to archaeology
since at least 1959 and the work of Caldwell (Trigger 1989, Pg. 294). Systems Theory, however, goes back to the work of Bertalanffy in Biology (Bertalanffy 1949). Today Systems Theory is rejected by many archaeologists, generally those who are proponents of the post-processualist school of theory such as Hodder. Many other fields, especially in business management, use Systems Theory as one of their tools of analysis today (Linstone 1999). In order to understand the intended use of Multiple Perspectives Methodology this chapter will first look at the use of Systems Theory in archaeology. Then it will look at the systems approach used in the field of Systems Thinking and how this can be used as a valuable tool for historical archaeology.

Processual archaeology is based on the scientific method and the importance of its accurate application to a given problem. Therefore before we can go any further into the issue of archaeological theory we need to give a short definition of what scientific method is. In most cases scientific method presupposes that whatever happens has a specific cause followed by a specific effect: the effects can be deduced (predicted) from an empirical knowledge of causes, and the knowledge of causes can be derived from a knowledge of effects (Angeles 1992, Pg. 186). The core component of this is that empirical sciences formulate hypotheses and subject them to empirical tests (Churchman 1979, Pg. 10). Binford describes science as a learning process and scientists as pursuing knowledge through the evaluation of ideas (Binford 1989, Pg. 23).

In 1959 Joseph Caldwell saw culture as an integrated system with a finite number of general historical processes (Trigger 1989, Pg. 294). Yet archaeologists had
often used systems analogies in their work before this, referring to societies and
cultures as bodies, which can be seen as another form of complex system
(Renfrew et al 1982, Pg. 281). Clarke stated that cultural systems are integral
whole units and that part of this cultural system, such as material culture or
religious dogma, were subsystems which had been arbitrarily extracted by
specialist academics (Clarke 1978, Pg. 42). Binford took this use of complex
systems to a new level with his use of a defined Systems Theory and became the
most well known representative of the 'new' archaeology, or as it is also known,
processual archaeology. Binford believed that a new scientific stringency was
required in archaeology to make it a valid field (Trigger 1989, Pgs. 297-298). As
can be seen in his book *Debating Archaeology* Binford still believed strongly in
the need for scientific methodology and stringency if archaeology is to grow and
be seen as a serious and worthwhile field (Binford 1989, Pg. 23). As part of this
attitude he viewed culture as an adaptive system composed of three subsystems -
technology, social and ideology; rather than culture being ideas transmitted from
one generation to another (Trigger 1989, Pgs. 297-298). Clarke also saw culture
as adaptive, as can be seen in the use of his example of the declaration of war on
Germany by Britain. In this example Clarke explains that Britain’s choice to
declare war was a result of the past and contemporary alliances and conditions
surrounding Britain and Europe (Clarke 1968, Pg. 58). Therefore the declaration
of war was an adaptation of the culture to its situation. The processualists took
their Systems Theory from the general Systems Theory of biologist Ludwig von
Bertalanffy, which stated that there were underlying rules that govern the
behaviour of entities (Trigger 1989, Pg. 303). Bertalanffy introduced this
paradigm in his 1949 journal article *The Concepts of Systems in Physics and
In his 1999 book Johnson provides an overview of Systems Theory as it has been practised in archaeology. Systems Theory was adopted by processual archaeologists because systems can be observed and tested, modelled or simulated, and they can be linked to each other (Johnson 1999, Pgs. 67-70). This allowed for stringency in archaeological analysis and for the testing of hypotheses to demonstrate their validity. Human systems were considered to be stable as a general rule with change being brought about by adaptation to external forces, both natural and social (Johnson 1999, Pgs. 67-70). The causes of change being attributed to outside forces enabled archaeologists to develop hypotheses and test these using scientific methods, looking at environmental factors or the growth of neighbouring groups. According to Trigger, Binford saw psychological factors as epiphenomenal, having no impact on the physical world (Trigger 1989, Pg. 302).

Johnson sees the strengths of Systems Theory as being that it avoids the mentalist approach, avoids monocausal explanations for change and development, and that because the subsystems are interconnected the archaeologist can learn more about the whole of a society through their material remains (Johnson 1999, Pgs. 71-74). Yet it is the seeming failure to fully utilise these strengths which has led to attacks on Systems Theory by post-processual archaeologists such as Hodder. Accusing it of being too much directed by the false ideal of an objective physical science, too dismissive of the particular character of historical circumstances, and too little aware of how much the past is a construction of our own time that we build to suit ourselves (Chippindale 1990, Pg. 465). These objections are reflected in Johnson's
discussion of the weaknesses of Systems Theory as it has been traditionally practised. Functionalist explanations, which simply look at how the parts of a system work like the cogs in a machine rather than why they work in this way, do not give any kind of historical explanation. Systems Theory makes linkages between cause and effect but fails to look at why alternative actions were not adopted; therefore change is inadequately explained. Systems Theory is an ideology of control with a purely Western bourgeois approach and thinking (Johnson 1999, Pgs. 75-79). Johnson also suggests ways in which Systems Theory, which has been abandoned by the majority of archaeologists, can be modified to make it viable within modern archaeological analysis. He suggests that it needs to separate function from functionalism within the systems model; incorporate conflict and contradiction within models; acknowledge that change can come from within rather than only from external forces; look into cognitive issues (Johnson 1999, Pgs. 79-80). As will be seen below, some archaeologists have adopted a modified version of Systems Theory as the basis for their work.

Keith Muckelroy provides a form of Systems Theory that can be categorised as a Multiple Perspectives Methodology. Muckelroy’s Multiple Perspectives Methodology is presented in two books, *Archaeology under Water* and *Maritime Archaeology*. The former book gives a very cursory explanation of Muckelroy’s theory and method (Muckelroy 1980, Pg. 28). The latter book goes into more depth, including a brief discussion in relation to its application on shipwrecks (Muckelroy 1978, Pg.216). The three perspectives presented are (a) the ship as a machine for transport, (b) the ship as an element in a military or economic system, and (c) the ship as a closed community. The (a) looks at the quantifiable aspects
of ships: how they are built and why they are built in this way (Muckelroy 1978, Pgs. 216-219). The (b) perspective looks at the ship as part of an organisation, either military or economic (Muckelroy 1978, Pgs. 219-221). It looks at what the ship carries and what this shows about the system within which it exists.

Muckelroy points out that the limitation of this perspective in that it is only possible to apply it to these two systems: vessels used for fishing or pleasure craft cannot be assessed under this perspective (Muckelroy 1978, Pg. 219). The final perspective (c) looks at the people involved in seafaring. Here Muckelroy looks at the contents from the spaces occupied by individuals. Analysis is carried out looking at hierarchies, through the comparison of artefacts relating to the ships officers and its crew. The sorts of people who took passage on vessels are also studied by looking at what they left behind (Muckelroy 1978, Pgs. 221-225). This form of Multiple Perspectives looks at scientific and technological aspects of a shipwreck but also brings into the analysis the system within which the ship exists and the people who form part of that system. It tries to look at the individual as well as social structures through its attempts to look at the specific belongings of these individuals. However, it still basically falls within the processualist's theoretical stream while attempting to overcome some of the weaknesses within Systems Theory methodology. This is due to the fact that Muckelroy’s Multiple Perspectives Methodology does not seem to be fully developed and does not look at some larger systems, such as the company that the ship belonged to. He presented a methodology that provides a solid basis for further development to encompass broader issues and deeper analysis of archaeological sites, as will be discussed below with regard to the Multiple Perspectives Methodology TOP developed by Linstone.
Another Maritime archaeologist, Richard Gould, also discusses the ship as part of an economic system very effectively and the ship as a time capsule. This time capsule contains a part of the complex system of a human society (Gould 2000, Pgs. 12-14). He does however point out that this time capsule or “Pompeii-premise” can be illusory because the ship was part of an ongoing process of varied activities (Gould 2000, Pg. 13). Thus the ship is part of a complex system and although we may choose to view it in isolation the system had affected the ship and the loss of the ship affects the system (Gould 2000, Pg. 13). Therefore analysis of the ship wreck cannot be undertaken without reference to the system of which it was a part. He also gives an example of the wrecking of the Titanic and how he believes the study should be carried-out (Gould 2000, Pg. 13-14).

This example is very similar to the example by Clarke regarding the declaration of war by Britain cited above. Gould does not use the terminology of Systems Theory but rather discusses the issue of sociocultural processes, this would seem however to equate with the concept of Systems Theory. Gould is an advocate of underwater archaeology and archaeology in general using scientific methods and their results to enable archaeology to be a valid and valuable area of study (Gould 2000, Pgs. 7 and 332-333).

Processual archaeology was followed by the development of post-processual archaeology. Hill states that post-processual archaeology cannot be said to follow on from processual archaeology because it classifies itself as non-scientific while processualism is scientific (Hill 1991, Pg. 51) Hill’s argument seems also to exclude processualism as the legitimate replacement for the old tradition of
archaeology which many of the processualists classified as non-scientific. During the early development of post-processualism the espoused view was that all theories and perspectives were of equal value. This view has been tempered by an understanding that although there are many valid and valuable theories available, there are equally many invalid theories that do not lead to any development or value in archaeology; therefore they are not all of equal value (Chippindale 1990, Pg. 465). In 1973 Clarke had said that metaphysical systems or theories can be invented conglomerations from which archaeologists could choose: it was not a choice between wrong and right but between valid and non-valid (Clarke 1973, Pg. 12). Ian Hodder is part of the post-processualist school and makes an attack on Systems Theory based on the fact that it does not fully take people, culture and the importance of history into the equation. He has said that systems analysis is discussed as a theory that will allow the inclusion of people and culture. The application of Systems Theory, however, is as scientific models which place people and the non-materialistic aspects of their culture into a peripheral role in the study of societies and human development (Hodder 1991, Pg. 33-34). As mentioned previously Binford stated that individual actions had no long term impact on the processes which create the archaeological record, however he went on to say that he had never denied that humans could act with free will (Binford 1984, Pg. 20). Thus Binford stresses that the individual is epiphenomenal with regard to the archaeological record, for while they can act freely they cannot affect the larger system in any lasting way.

Gheorghiu laments the fact that archaeology as a discipline has a tendency to adopt a theory as though this one alone could answer all the questions
encountered in archaeology and then reject them out of hand. He suggests that it would be a good thing if archaeology could revive some of the old theories such as systems theory (Gheorghiu 2003, Pg. 171). An example of the use of Systems Theory and post-processual theory integration is the work of Kurt Anschuetz, Richard Wilshusen and Cherie Scheick. They look at the use of Systems Theory in landscape archaeology, making specific mention of the issues of technological and organisational changes. They make a point of the fact that Systems Theory is a theory that has been applied in many fields, including anthropology, geology and ecology. Again they also make mention of the flaws in the Systems Theory models that have been applied in the past (Anschuetz et al 2001, Pg. 162).

Anschuetz et al believe that landscape archaeology methods have the ability to bring together the scientific methods of the processualists with the place of the individual in the archaeological record. The complaint by processualists such as Binford, supported by Johnson, that individuals are epiphenomenal to the archaeological record is not supported by Anschuetz et al (Johnson 1999, Pgs. 67-70, Binford 1984, Pg. 20, Anschuetz et al 2001, Pg. 162-163). The Anschuetz et al discussion of humans covers the individual and their place in the archaeological record but concentrates on small groups or communities within the larger society. The paper also includes a discussion which can be seen in the light of a Multiple Perspectives Methodology, stating that landscape archaeology looks at many contrasting perspectives. The landscape approach as discussed by Anschuetz et al has a wider application than the TOP methodology proposed in this paper. TOP is a methodology which requires documentary evidence and is therefore best applied to the historical period, while the landscape approach can be applied through its broad paradigm from the current period back through to the beginnings of human
development. The authors see a landscape approach as multidisciplinary and multifaceted (Anschuetz et al 2001).

The Multiple Perspectives Methodology which will be applied in this paper is from the field of Systems Thinking. Systems Thinking is a field of study within the area of business studies and engineering. It has developed from the roots of Systems Theory in Biology, just as the Systems Theory used in archaeology did. Systems Thinking is not specifically a discipline in itself, according to Professor of Systems Management at Lancaster University, Peter Checkland, but is a theory that can be applied to any discipline. The basis of Systems Thinking is that it provides a theoretical method for examining a problem by looking at it as a part of a system and how it works within this system (Checkland 1981). That is, you cannot understand the heart and how it works without reference to the blood supply, oxygen, lungs, brain and all other parts of the body. In his book *The Systems Approach and Its Enemies* Churchman (one of the originators of the field of Systems Thinking developing a qualitative and perspectives based approach to it) states that the systems approach is based on the principle that all aspects of the human world should be tied together in one grand scheme (Churchman 1979, Pg. 8). Therefore we must realise that no problem can be approached as an isolated problem. A NASA satellite taking pictures of the earth to make a complete and up-to-date map of the planet and its resources may be intended to be for the innocent benefit of all, or for the financial benefit of one country. This does not mean that countries suspicious of the United States Government may not see this as something more akin to a spy satellite interfering with the running and safety of their country (Churchman 1979, Pg. 6).
Johnson states that monocausal explanations for change are inadequate in giving a full explanation of complex systems such as human societies (Johnson 1999, Pg. 71). Clarke had also espoused the view that no single view or interpretation of a set of data can ever be wholly comprehensive or “true” (Clarke 1978, Pg. 19). Tilley argues that when we try and decipher intentionality in the archaeological record we run into the problem of trying to distinguish between individual and group intentions. As well as the problem of the intended result of an action and the actual result (Tilley 2004, Pg. 78). Thus there can not be a monocausal answer to these complex questions. Multiple Perspectives Methodology also takes this view that there can be no single answer to the workings of a complex system. Harold Linstone is the major proponent of the Multiple Perspectives Methodology known as TOP (Technical, Organisational and Personal) (Linstone 1999, Pgs. 31-73), which is a model within Systems Thinking. TOP methodology employs three perspectives through which to analyse complex systems - Technical, Organisational and Personal. Using the T Perspective the world is seen through a quantitative lens. For example, the results of this type of analysis may be shown as a bell curve. The T Perspective covers areas, which can be scientifically analysed and assessed. It covers aspects of a system such as where does the greatest amount of shipping traffic occur with time for the repair and maintenance of vessels. The T Perspective is a purely logical and rational perspective, or what could be termed a scientific perspective, this also covers such areas as economics which can be analysed statistically. The O Perspective looks at the system through the organisations involved in that system. Originally Linstone’s O Perspective covered only formal and structured forms of organization however his more recent
work incorporates informal organisations into this perspective (Linstone 1999, Pgs 31-73, Linstone 1984). Organizations have rules and procedures that govern the way they work, and policy can become regarded as quasi-sacred. Organisations do not only mean corporations and governments - they also include groups such as religious organisations and clubs. The O Perspective is designed to take into account the fact that some organisations build their own mythologies which give them more power in dealing with the individuals within the organisation and sometimes with those outside the organisation. An example could be an organisation like the American Marines. They have a very strict code of behaviour that has enabled them to build a very distinctive image with which to deal with the general public in America. The final perspective is the P Perspective, which looks at the system through the lens of the individual. This does not require that every individual within the system must be analysed but rather that individual ideas and attitudes are acknowledged as a factor within the system and examples are analysed; both influential and general samples if available. The P Perspective also takes into account issues such as intuition, charisma, leadership and self-interest (Linstone 1999, Pg. 41). Analysis of a complex system through the TOP methodology provides the T Perspective, which can be validated and tested, and the O and P Perspectives, which cannot and are used to cover one-time occurrences and the behaviour of strong personalities or groups.

Linstone’s TOP Multiple Perspectives Methodology was developed for the realm of business, with specific application to the aerospace industry within which he works. It does however have parallels with Muckelroy’s Multiple Perspectives
Methodology: the ship as a machine for transport covers some of the same area as the T Perspective; the ship as an element in a military or economic system looks at some of the same areas as the T and O Perspectives; the ship as a closed community could give some of the same perspectives as both the O and P Perspectives. The Multiple Perspectives Methodology propounded by Linstone overcomes many of the objections to the use of Systems Theory in archaeology made by some of the above mentioned authors (Hodder 1991, Pg. 33-34, Johnson 1999, Pgs. 75-79), through the inclusion of the O and P Perspectives. These perspectives stop the framework from being a purely scientific methodology. The T, O and P perspectives together instead allow the theory to use both quantitative and qualitative data to give a greater depth of field to answers to a researcher’s questions. Linstone argues that this methodology does not give a single answer to a question because the different perspectives will give their own answer. These answers can then be combined so that when looking at a complex system the answer has many facets or dimensions rather than being one-dimensional. Each of the Perspectives yields insights about the system not obtainable with the others (Linstone 1999, Pg. 32). TOP gives a sound theoretical framework upon which to build a research methodology suitable for the study of archaeological sites. It is especially cogent in the study of archaeological sites of the historical period, where documentary evidence and information from informants can supplement the archaeological evidence.
Figure 1: A diagram demonstrating that all three of the T, O and P Perspectives are analysed in parallel. Their results are brought together and all used as the solution to a problem. In a problem involving a complex system the answer is more than "A".

2.2 **TOP and Fletcher’s Slip and Graving Dock**

In this case the T or technical issues examined are the economic downturn of the 1890's, the dockworkers strikes of the 1890's, the water table at Port Adelaide in the vicinity of the Slips and Graving Dock, the site choice, the economic viability of the Slips and the Graving Dock. All of these questions can be researched through a variety of documentary sources and the issues of the cost of completing the dock can be assessed. The possible effect of these financial issues on the continuance of the Slips as a successful business also need to be considered. The O or Organizational Perspectives are not transferable, except possibly between components of the same organization. The organizations that may need to be looked at in this case are the company running the Slips and building the Graving Dock, the local council, the Colonial Government, the unions, the banks and the Harbours Board. The structure and methods of dealing with each other will need to be investigated to see if this may have had any bearing on the abandonment of the Graving Dock or the building of the Slips. The P or Personal Perspective is from the viewpoint of any individuals who may have had an impact on the fate of
the Slips or Graving Dock and is non-transferable. In this case the most relevant people would seem to be Henry Cruickshank Fletcher and his family, although research will need to be carried out to see if any other relevant individuals can be identified. The purpose of this approach is to try to recover all of the reasons for the work carried out with regard to the Slips and the Graving Dock, rather than saying that the answer is "A". Monocausal answers will not suffice with regard to a complex system such as a business which at least at its beginning was considered a necessary part of the Port Adelaide infrastructure.
Chapter 3   Method

3:1   Pre-survey Method

The method employed in the research for Fletcher's Slip and Graving Dock has included:

- The pre-survey methods of historical/archival research
- Research into sites of similar period and usage in Australia and outside of Australia
- A survey of the literature regarding Systems Theory and its use in archaeology and in other fields
- The Development of Multiple Perspectives Methodology and its possible application in Historical Archaeology.

3:1:1   Pre-survey Method – Historical/Archival Research

The historical and archival research for this project has included a survey of early South Australian newspapers, which has provided evidence regarding the development of the sites. These newspapers also provided insight into the life of Henry Cruickshank Fletcher, the original developer of the sites (The South Australian Register 13th November 1866, 19th March 1867, The Register Adelaide South Australia) 28th December 1926, Observer, 27th January 1912).

Some of these articles also contained the speeches of influential members of the colony and their views on the Dunnikier Slip and the role of the individual Colonial Government.

As well as discovering the history of the site and of H.C. Fletcher, one of the requirements in order to fulfil the criteria for the application of Multiple
Perspectives Methodology is to discover the views of at least some of the individuals involved with the sites being studied. Henry Cruickshank Fletcher’s views on the sites, the state of the colony and other issues were found in records held by surviving members of the Fletcher family (Fletcher 1987) and the records of the South Australian Parliament (*Parliamentary Papers*, South Australia 1892). These Parliamentary Papers also give the views of others involved in the development and running of Port Adelaide and its Maritime infrastructure.

The importance of the sites was also implied by the changes in legislation to allow the development of the sites, which were accessed in the Acts of the South Australian Parliament (*Acts of The Parliament of South Australia*, Adelaide 1886, No.373). This legislation gave part of the river floor to H.C. Fletcher and the use of a further portion of the river floor for a set period of time.

The physical development of the area under study and its surrounds has been sought in maps covering the sites at the time of study. These have been accessed through State Records and the Port Adelaide Historical Society (Black and White Lithograph on cloth, 1885. *Acts of The Parliament of South Australia*, Adelaide 1886. South Australian Harbours Board, 1935). The effects of dredging and land build-up in the area around the Graving Dock and Slip can be seen in the tidal differences demonstrated between the Black and White Lithograph of 1885 and the South Australian Harbours Board Map of 1935.

The water table levels for this area have also been sought from various government departments and individuals working in the area of water resources.
No complete information has thus far come to light. The Department of Primary Industries has a map and documents relating to bores dug in the area of Fletcher’s Dock and its surrounds. Although the map shows bores having been dug within the Dock the records pertaining to these particular bores have been lost.

Photographic evidence of these physical changes and of the Dunnikier Slip during its use and the building of the Graving Dock were obtained from the Mortlock Library and members of the Fletcher family (Fletcher family photos). Photos by Ron Young, held by Jaan Lindsaar, the current owner of Fletcher’s Slip, showing the functioning Slips have been seen but permission for their use in this research could not be obtained.

Ownership of the sites over the period covered by this project and its current status has been established through documents obtained from the Lands Services Group (Title documents section 916, 1869-2002, Memorial 1857).

Before any survey of the sites can be carried out, as well as establishing current ownership it was also necessary to establish the current status of Fletcher’s Slip. This has been determined through access to the Port Adelaide Enfield Council records, contact with the Land Management Corporation (Land Management Corporation, 2003) and Jaan Lindsaar regarding the future of the sites.

3:1:2 Pre-survey Method – Comparative Research

Research was carried out into previous archaeological work carried out on slips and docks of similar age in other parts of Australia and other countries. Records
have been obtained of the work carried out on Randell’s Graving Dock at
Mannum South Australia (Jeffery 1998, Piddock, no date.). Information has been
found on the dry docks and slips at Cockatoo Island and Woolwich Dock and
Parklands by the Sydney Harbour Federation Trust of New South Wales
(http://www.harbourtrust.gov.au/topics/siteswoolwich.html,
cases in both New Zealand and Britain have been examined. The British case
studies found have been the ship building of the United Kingdom (Stammers
1999), Southern England (Hudson 1965), the Dockyard at Grangemouth
(Bowman 1981), the Sunderland Docks (Miller 1979-80), Portsmouth Dockyard
(Riley 1986). The New Zealand case study is Malcolm McGregor’s work on a
Patent Slip in Wellington New Zealand (Geometria, Geophysical survey
McGregor, president of MAANZ, to Emma Brooks of the NZ Historic Places
Trust dated 17th February 2003).

3:1:3 Pre-survey Method – Theory

Research was carried-out into the development of Systems Theory and its use in
archaeology. Keith Muckelroy’s Multiple Perspectives Methodology was studied
from the two available sources (Muckelroy 1978, 1980) and related to System
Thinking's Multiple Perspectives Methodology TOP as developed by Harold
Linstone (Linstone 1999).
3.2 Survey Method

The planned survey of the sites has several parts, a surface survey of Fletcher's Slip and a surface survey of the Graving Dock; the site survey method employed for this project will follow that recommended in Drewett (Drewett 1999, pp.58-75). The survey will include baseline and offset of the two sites. A full photographic record will be made of the sites, as well as sketches of all relevant structures, this did not include the buildings on the site as the focus of this thesis related to the two Slips and the Graving Dock. Dumpy readings of each of the sites will also be made with reference to the survey reference marks in Port Adelaide. Due to the lack of any visible physical remains on this site only two sketches were made showing the pier and the incline to the water on the Western side. The Archaeology Department proformas for photographs and any artefacts collected will be employed. Student volunteers from Flinders University Archaeology Department will assist in the survey of the two designated sites. An underwater survey to establish the extent of the remains of the Graving Dock and both Slips is a possibility but will be determined by time constraints and the availability of people and equipment for the purpose.
Chapter 4  Results

4:1 Historical and Archival Research

Figure 2: Henry Cruickshank Fletcher towards the end of his life. Photographer unknown. Date unknown. From the Collection of Philippa Fletcher.

Henry Cruickshank Fletcher was born Henry Cruickshank Flett in Strathness, Orkney, Scotland on 9\textsuperscript{th} March 1820. He completed an apprenticeship as a shipwright while still in Scotland. This apprenticeship included a great deal of engineering knowledge (Fletcher 1987). Henry and his brother both changed their names because Flett was too common a name in Orkney (Fletcher 1987). There
was also a general belief in Scotland at the time that people from Orkney were inbred and therefore stupid, so the brothers wanted to change their name to distance themselves from the island (Ann Woods pers comm, October 2002).

The story of the beginnings of Fletcher’s Slip has two slightly different versions; the family’s version and the generally accepted version. The family’s version begins in 1842 when they say that Fletcher sailed to South Australia to assess the possibility of emigration and business opportunities. As a frugal Scotsman he came out as a ships carpenter rather than pay the passage (Fletcher 1987). It is because H.C. Fletcher’s supposed visit to South Australia in 1842 was carried out without shipping as a passenger that verification or falsification of the family’s version has been very difficult. The South Australia Company had brought a slip

Figure 3: The Camilla. Oil on canvas painting. Artist unknown. Date unknown. From the Collection of Philippa Fletcher.

to South Australia and landed it on Kangaroo Island in 1839. In 1843, according to the Fletcher family’s version, H.C. Fletcher bought that Slip and had it brought
to Port Adelaide and left there in pieces before returning to Scotland in 1845 to marry and settle his affairs. He returned to South Australia in 1849 aboard the Camilla with his wife Robina and their son John and daughter Robina (Fletcher 1987).

The second version as presented by Kathy Brown, a member of the Adelaide restoration group, has a few differences (Kathy Brown pers comm, August 2002). She records the accepted version of the story of H.C. Fletcher coming to South Australia in 1849 on the Camilla. The Slip was brought to Kangaroo Island in 1837 by the South Australia Company and left at Kingscote. In October 1845 the Slip was moved aboard the Victoria to Port Adelaide and again left until 1849 when Fletcher arrived. He leased a two acre piece of land from the South Australia Company at ten pounds a year for twenty-one years (The Register (Adelaide South Australia) 28th December 1926). The site was on the Northern side of the Port River from the wharves at which many of the ships visiting the Port would unload. It was part of section 916 of the Hundred of Port Adelaide. He also bought the Slip from the South Australia Company in partnership with a gentleman named William Ibister. Ibister did not stay to work the Original Slip and there seems to be little information regarding Ibister except for the fact that he was an initial partner in the Original Slip. An article in The South Australian Register 19th March 1867 seems to support the family version of events by stating that in 1843 Fletcher had leased the land and become owner of the Slip still in pieces (The South Australian Register 19th March 1867). Fletcher’s earlier visit and purchase of the Slip in pieces would explain why they had been moved to Port Adelaide from Kingscote in 1845. However, another explanation for the
moving of the pieces could be the pressure being applied by *The South Australian Register* in a number of articles for the building of a Slip in Port Adelaide.

The construction of the Original Slip and the surrounding buildings began in September 1849. The Original Slip and its buildings were built on reclaimed land built-up using the silt from the dredging of the river bottom. It was completed and functioning by 1851. The winch was powered by an eight-man windlass and reducing gears (*The South Australian Register* 19th March 1867). A single piece of paper loose in the records of the South Australia Company is a memo carrying costing details for a Patent Slip at Port Adelaide. The memo is undated and whether it pertains to the Slip the South Australia Company brought to South Australia in 1837 and sold to H.C. Fletcher or not is unknown (South Australia Company Records). The fact that the memo refers to a steam winch would seem to indicate that it was not with regard to the Slip purchased by H.C. Fletcher and William Ibister.

The first boat to be launched from the Slip after repairs was the *Panama*. Her launch was an occasion watched by a large crowd. Finally Port Adelaide had a functioning Slip to service the ships. Before the completion of the Original Slip shipping at Port Adelaide requiring repair had to go to one of the other colonies or be cleaned by being pulled-up and leant over on the shore. The Original Slip was very successful and H.C. Fletcher had a flourishing business (Fletcher 1987). By 1857 the Original Slip was doing so well that Fletcher was able to stop using the man-powered winch and installed instead a steam-powered winch (The Greater Port Adelaide Heritage Survey 1989, Pg. 118). The first
building on the site to support the Original Slip was a Wrights and Blacksmiths shed. This was followed with an engine house to which an extra storey was later added to serve as a storeroom and mould loft. After a few years the tramway developed some faults and the size of the vessels, which could be taken up, had to be reduced (The South Australian Register, 11th November, 1866).

Increasing business and the fact that the Original Slip was not able to work to full capacity led H.C. Fletcher to purchase a patent Dunnikier Slip from the Dunnikier Foundry of Scotland. H.C. Fletcher was only willing to undertake the building of a larger slip because he was able to gain the land to build it on in fee simple from the South Australia Company. He was able to do this because Captain John Hart intervened with the South Australia Company on his behalf (The South Australian Register, 19th March 1867). This new Slip was shipped to Port Adelaide in two lots. The first arrived aboard the Saint Dunstan on the 17th January 1862. The
Figure 5: The Dunnikier Slip, upper portion. None of this portion of the Slip remains.
Photographer unknown. Date unknown. From the Collection of Philippa Fletcher.

Figure 6: Lower portion of the Dunnikier Slip, showing the cradle and other machinery. Photograph SLSA: B 7663, date 1896. Photographer Ernest Gall. Photograph courtesy of the State Library of South Australia.
second lot arrived on the 16\textsuperscript{th} March 1862 aboard the \textit{Cherokee}. Instillation of this Slip began in that same year. Details of the building process for the Dunnikier Slip are given in two articles in The \textit{South Australian Register}, the first in 1866 during the construction phase and the second in 1867 covering the opening of the Dunnikier Slip. These two articles go into a great deal of detail as to the building processes of the Dunnikier Slip. According to the \textit{Register} article of 1867 it was designed to be able to take 2,000 tons and was therefore very large, partially covering a piece of the floor of the Port River (\textit{The South Australian Register}, 19\textsuperscript{th} March 1867). At the 1892 Graving Dock Commission H.C. Fletcher stated that the Dunnikier Slip could only take vessels up to 1,600 ton (\textit{Parliamentary Papers, South Australia, 1892}, Pgs. 48-53) The Dunnikier Slip was completed in 1867 and the first boat launched from the Dunnikier Slip was the \textit{Edinburgh} on the 16\textsuperscript{th} March 1867. H.C. Fletcher was willing to spend his own money developing this site because he had managed to talk the South Australia Company into giving him
the land in fee-simple. He did not call on the Colonial Government for financial assistance in the building of the Dunnikier Slip. In the speeches recorded at the opening of the Dunnikier Slip a great deal was made of the fact that such important maritime infrastructure had been completed by an individual without recourse to the government purse (The South Australian Register 19th March 1867). The two Slips working together became the symbol of the H.C. Fletcher’s shipwrights business, so much so that it was engraved on a copper plate used to print the dockets for the Slips. This original engraved copper plate is still held by a member of the family.

Figure 8: Docket from Fletcher's Slip printed from the below plate. Photograph of a lithograph by Penman and Galbraith 1874, SLSA: B 3896. Photograph courtesy of the State Library of South Australia.

Figure 9: Etched copper plate showing the Dunnikier Slip and Original Slip in use. Left side digitally reversed, right side the original plate. From the collection of Philippa Fletcher.
Fletcher became a prominent member of the Port Adelaide community; he was consulted about the bridge across the Port River and was a member of the Port Adelaide Institute Committee in 1851 (The Greater Port Adelaide Heritage Survey, 1989, P. 118). His business proved so successful that Fletcher became a very wealthy man. He was able to buy partnerships for his sons John and William in the Etna Iron Works. He also bought his son Henry Cruickshank Junior a farm at Clarendon called ‘Prior’s Court’. His fourth son Tom was employed as the secretary at Fletcher’s Slip (Fletcher, 1986). After living in a house at Fletcher’s

Figure 10: The Brocas at Woodville today. Most of the land which went with the house is no longer part of the property. The house itself is now the Woodville local history museum.

Photograph taken by Ruth Jenkins 9th August 2004.
Slip with his family he bought a house called ‘The Brocas’ at Woodville in 1873 (The Register (Adelaide South Australia) 28th December 1926).

Fletcher also began a Graving Dock. A map made by W.E. Slade for the Marine Board in 1885 shows the Graving Dock under construction (Black and White Lithograph, 1885). Act number 373, Port Adelaide Water Frontages Act, was passed on the 17th of November 1886 to allow the building of the Graving Dock.

This Act gave H.C. Fletcher ownership of a small piece of the river bottom fronting his property to allow the building of the front end of the Graving Dock (Port Adelaide Water Frontages Act November 1886). A cousin who was a trained engineer from Scotland visited towards the end of construction and admired the engineering of the project (Philippa Fletcher pers comm, 2002). The Graving Dock was never completed due to a number of problems. Seepage from
the striking of an underground spring caused major problems. Costs to seal this seepage and complete the Graving Dock would have been high. To make matters worse this problem was encountered just after the 1890 shipping strike and during the 1890’s depression. Both of these impacted on the business of Fletcher’s Slip and H.C. Fletcher was forced to sell his son’s farm (Fletcher 1987). H.C. Fletcher, however, stated that the effect of the dock workers strike was negligible on the business of the Slip (*Parliamentary Papers*, South Australia 1892, Pg. 51). Although the Graving Dock was completed almost to the point of installing the end gates it had to be stopped or risk Fletcher’s Slip which had cost so much to develop and was the basis of his business. It was abandoned in approximately 1896 according to family records. An interesting footnote to this is that, according to the above mentioned article from *The South Australian Register* of March 1867, it was not possible to build a Graving Dock along the Port River due to the low high tides and lack of bedrock for a base. After the abandonment of the
Graving Dock it became a popular swimming spot. It was used as the site for several swimming competitions as can be seen in Figures 12 and 13. Later it was modified and used by the Glanville Dockyards as a dock. The Harbours Board was also interested in the building of a Graving Dock. They wanted to build and control their own. Their preferred site was Hawker’s Creek, in the corner of the Gawler Reach west of Fletcher’s Slip (Parliamentary Papers, South Australia 1892, Pg. 53). This led to difficulties between the Harbours Board and H.C. Fletcher, both because of the possible competition between a Harbours Board Graving Dock and the one H.C. Fletcher was building and because of the Dunnikier Slip. The Dunnikier Slip extended 360 feet into the Port River along the river bottom, approximately to the middle of the Gawler Reach (The South Australian Register 19th March 1867). The South Australian Government looked into the building of a Graving Dock and rejected the Hawker’s Creek site but considered a site on the North Arm. A Parliamentary Commission was held into the building of a Graving Dock by the South Australian Government in 1892 (Parliamentary Papers, South Australia 1892, Pgs. 48-53). A Bill was produced but took some time to bring before the Parliament but the Graving Dock was never built. The Corporation of Port Adelaide also had wanted a Graving Dock built to ensure the viability of Port Adelaide to deal with the constantly increasing size of ships used by the various lines trading around the world. In a series of reports by the Mayors of Port Adelaide over a number of years the need for a Graving Dock and the frustration of the City of Port Adelaide at the failure of the Government to act is clearly expressed (City of Port Adelaide Mayor’s Reports 1896-1906). These reports are all from after the time when H.C. Fletcher had abandoned his Graving Dock.
H.C. Fletcher retired to his house ‘The Brocas’ at Woodville, which has since become a local history museum. William Fletcher took over the running of Fletcher’s Slip. H.C. Fletcher died on 23rd January 1912 in Woodville at the age of 91. He was buried at Cheltenham Cemetery with his wife Robina who had died on 2nd October 1899 aged 76. Fletcher’s Slip was acquired by the Harbours Board in 1917 and later leased to the Adelaide Steamship Company, who replaced the steam winch with an electric one in the 1950’s. It continued to function until at least 1987 (Fletcher, 1986).

Figure 14: Portion of Black and White Lithograph on cloth, map, 1885, at State Records of South Australia, Gepps Cross, reference: GRG 51/302.
The Site of the two Slips is situated at 230-246 Semaphore Road, Birkenhead, South Australia: known as Northbank Marine and owned by Jaan Linsaar. It is on the northern side of the Gawler Reach on the western side of Birkenhead Bridge. It is registered with the Lands Titles Office as Part Section 1205,
allotment 6, hundred of Port Adelaide. It was originally section 916 part
allotments 1 and 2. The site is listed on its Certificate of Title as having no

Figure 16: "Revised Redevelopment Concept Plan April 2003", for the redevelopment of the Port Waterfront. The Graving Dock is included in the redevelopment at Newport Quays. From the LMC website (www.lmc.sa.gov.au) downloaded on July 2nd 2004. Reproduced with the permission of the LMC.

Figure 17: Fletcher’s Haven redevelopment plan forming part of the "Revised Redevelopment Concept Plan April 2003". Fletcher’s Slip is the uncoloured portion on the left-hand side of the plan. From the LMC website (www.lmc.sa.gov.au) downloaded on July 2nd 2004. Reproduced with the permission of the LMC.
heritage value and is not listed with the Department of Environment and Heritage. The site of the Graving Dock is adjacent to the Dunnikier Slip site on the western side with a small piece of land between the two. The Graving Dock forms part of

Figure 18: Aerial view of Port Adelaide with a view of the Graving Dock and the two Slips. Approximate date 1934. SLSA: B 24288. Photograph courtesy of the State Library of South Australia.

Figure 19: The filled in upper portion of the Original Slip facing south. Photograph taken August 9th 2004, by Ruth Jenkins.

the Glanville Dockyards and is currently part of the Port Adelaide Waterfront Redevelopment. The lands between the Graving Dock site and Northbank Marine, as well as Northbank Marine itself are the only pieces of waterfront land between Hawkers Creek and the Birkenhead Bridge not currently scheduled for development. The plan for the redevelopment at the site of Fletcher’s Haven, as
seen in Figure 17, states that Northbank Marine may provide a link to the adjacent redevelopment site. This may mean that there are future plans for the development of this site.

Figure 20: The rubble fill forming the end of the portion of the Fletcher's Slip which was the southern end of the Original Slip. Photograph taken August 9th 2004, by Ruth Jenkins.

Figure 21: Sketch plan by feel of the submerged area off the end of the Original Slip. Made on the morning of 18th March 2004 by James Berringer-Paulie and Rick Bullers, Masters Candidates in Maritime Archaeology at Flinders University.
The Original Slip, once known as Fletcher’s Slip which gave the site its name, has been completely filled in above the waterline, thus a land survey of the site was impossible. Two Masters Candidates from Flinders University, James Berringer-Paulie and Rick Bullers, conducted a brief underwater survey. This survey was hampered by low visibility of approximately 30cm. A sketch plan by feel was completed by the divers showing that there are some features off the end of the Original Slip. A photo of this area taken from above through the water toward low tide shows what may be part of one of the rails from the Original Slip. Whether these features are the remains of the Original Slip or are the result of the filling in of the site, or the building of the small boat moorings now at the site would need to be determined by a full underwater survey of the site.

![Figure 22: Photo of a possible submerged rail from the Original Slip. This feature is the same as the bottom feature marked on the sketch plan above. Photograph taken 9th August 2004 by Ruth Jenkins](image)

The second Slip constructed at the site of Fletcher’s Slip was named the Dunnikier Slip for the foundry in Scotland from which it was acquired. Figures 5 and 6 show the extent of the Slip and its machine sheds while it was a working Slip. All of the features shown in Figure 5 have been removed. This part of the site has been levelled off, concreted over and the original sheds replaced by new
sheds. Figure 26 shows the extent of the remains of the Dunnikier Slip facing south to the waterline. There are no-longer any remains of the cradle which had

**Dunnikier Slip**

1 Top corner of the slip E  8 Top of steps
2 Top of two cement steps  9 Slip floor in corner
3 Top of corner  10 Middle of slip in line with 3/9
4 Top of internal corner  11 Middle of slip at change
5 N Edge of collapse  12 Top corner of the slip W
6 Base of collapse  13 Change from wall to metal
7 S Edge of collapse  14 Matt’s reference point

**Figure 23:** Diagram showing the points where dumpy readings were taken on the Dunnikier Slip.
still been on the Dunnikier Slip as late as 1987 (Fletcher 1987). At extremely low tide iron rails going out into the waters of the Gawler Reach are still visible. There

Figure 24: Sketch (not to scale) of the Dunnikier Slip floor drawn by Kylli Firth, Christine Bender and Dianne James.
are no iron rails remaining above the low water line. The Dunnikier Slip floor is currently made up of basalt blocks, copper slag blocks and concrete. There are

Figure 25: Section of Dunnikier Slip floor showing copper slag ingots and basalt blocks. At the top of the picture is part of a remaining wooden rail. Photo taken on 9th August 2004 by Ruth Jenkins.

Figure 26: Floor of the Dunnikier Slip facing South. 24th May 2004, taken by Ruth Jenkins.
also features of iron and wood on the site. Some are documented in the drawing of the Dunnikier Slip in Figure 24; others can be seen more clearly in the Figures 25, 26, 27 and 28. The wall of the Dunnikier Slip on the Western side has been

![Figure 27: Iron feature from central portion of Dunnikier Slip running north to south. Photo taken facing south on the 24th May 2004 by Ruth Jenkins.](image)

Figure 27: Iron feature from central portion of Dunnikier Slip running north to south. Photo taken facing south on the 24th May 2004 by Ruth Jenkins.

![Figure 28: Photo showing one of the remaining wooden rails of the Dunnikier Slip and the beginning of the cement covering which has been added. Taken facing east 24th May 2004 by Ruth Jenkins.](image)

Figure 28: Photo showing one of the remaining wooden rails of the Dunnikier Slip and the beginning of the cement covering which has been added. Taken facing east 24th May 2004 by Ruth Jenkins.

replaced to a large extent by an iron retaining wall. A small portion of this wall remains with a large concrete cap along the top of it. This wall is mostly constructed from copper slag blocks from the copper foundry across the river

![Figure 29: The following insert page contains a panoramic picture of the eastern wall of the Dunnikier Slip. This picture show the modification and repair work carried out on this wall. Photo taken and digitally combined by Adam Jenkins, 23rd February 2004.](image)

Figure 29: The following insert page contains a panoramic picture of the eastern wall of the Dunnikier Slip. This picture show the modification and repair work carried out on this wall. Photo taken and digitally combined by Adam Jenkins, 23rd February 2004.
Figure 30: Portion of eastern wall showing attempts to support the wall. Photograph taken 24th May 2004 by Ruth Jenkins.

Figure 31: Close-up of another portion of the eastern wall showing parts of the apparatus used previously as an attempt to support the wall. Photograph taken 24th May 2004 by Ruth Jenkins.

from the site. The eastern wall is complex and shows a number of layers and repair work. A portion of the wall has collapsed and there is evidence of earlier
work on the wall to try and stabilise it (Figures 29, 30 and 31). Figure 30 also shows some of the layers in the wall. Below the lower piece of wood is the original wall of the Dunnikier Slip mostly containing basalt blocks from ships ballast. The higher crossbar of wood shows a layer of stone that is evenly cut and shows signs of age. Above this there is a portion of wall also made of stone block but these are not evenly cut and have a different mortar. Above this again is a row of basalt blocks with new mortar, which have been recycled from other areas on
the site by the current owner. Along the top of the wall is a concrete cap. As can be seen in the panoramic photo of this wall (Figure 29) different parts of the wall have different series of layers. The collapse of the wall seems to relate to the weight of the load on the top of and behind the wall. Instead of being used as one side of a small area between the two Slips, as originally designed, the wall has become more of a retaining wall and close to the wall along the top of the load runs a concrete path.

The Graving Dock became known as Fletchers Dock and was used as a dock as part of the Glanville Dockyards complex. Descriptions of the site say that it was almost complete before it was abandoned. Kingsley Haskett, owner of Searles Boat Yard stated that it was ready for the gates to be added before it was abandoned (*pers comm*, October 2002). A survey of the site determined that there

![Diagram of Fletcher Dock](image)

*Figure 34: Sketch Plan of the Graving Dock (Fletcher’s Dock) eastern wall slope. Drawing Mark Staniforth, Ruth Jenkins and Robert Stone.*
Figure 35: Sketch of the Graving Dock (Fletcher's Slip) showing the pier along the eastern wall. Drawn by Mark Staniforth, Ruth Jenkins and Robert Stone.
were no remains of the original western wall of the Graving Dock due to modifications made by the Glanville dockyards. The eastern wall has a layer of rubble, which contains basalt, quartz, other stone and building waste. A pre-disturbance survey was unable to determine whether the various types of stone were part of the Graving Dock as it was left at the time of its abandonment. H.C. Fletcher had intended to line the Graving Dock with concrete. There was no sign of any concrete underlying the rubble on the eastern side of the Dock. Whether H.C. Fletcher had lined the base of the Graving Dock before he abandoned the project would need to be determined by an underwater survey. Due to the problem of seepage within the Graving Dock and the cost of fixing the problem it is probable that the lining had not been put in place before the Graving Dock was abandoned. Photographs of the Graving Dock during the period when it became used as a swimming area indicate that the wooden peer structure along the eastern side of the Graving Dock was added at a later date and was not part of the Graving Dock structure. Figure 11 shows at least some of the extent of the work carried out on the Graving Dock by H.C. Fletcher.

4.3 Difficulties Encountered

Some of the problems encountered in the process of research and survey for this thesis include the following. The photographs taken by Ron Young of the working Dunnikier Slip held by Jaan Lindsaar could not be copied for publication. It was not possible to contact Ron Young and Jaan Lindsaar would not allow access to the photographs because of a promise made to Ron Young not to allow publication. A lack of time and limited access to the Graving Dock limited the scope of the survey of this site. Due to the polluted condition of the water in the
Gawler Reach and the limited visibility which resulted from this, as well as a lack of funds, only minimal underwater survey could be undertaken, and this off the end of the Original Slip. Records of the Dunnikier Foundry did not cover orders or sales of patent slips during the period which the Dunnikier Slip was purchased by H.C. Fletcher. The South Australia Company records held by the State Library are incomplete and do not have relevant material relating to H.C. Fletcher or the Slips. Family records formally held by the Fletcher family could not be found by those groups to which the family had given them for safe keeping.
Chapter 5  Discussion: TOP and Fletcher’s Slip

An analysis of the survey results and the historical research using TOP will suggest why Fletcher’s Slip was successful over a long period of time. It will also suggest why, on the other hand, the Graving Dock was abandoned by H.C. Fletcher when it was close to completion. First the Technical, Organisational and Personal perspectives of the historical aspects of the site referred to as Fletcher’s Slip will be examined. Secondly an analysis of these perspectives will be completed to bring out the relevant aspects of each to the question of the development of the two Slips and the Graving Dock and their fate while in the hands of H.C. Fletcher.

5:1  Technical

5:1:1  The Original and the Dunnikier Slips

First the technical aspects of the development of Fletcher’s Slip must be examined, looking at those aspects of the development of the two Slips which can be measured, looked at statistically or tested scientifically, as discussed in the literature review above.

The issues relating to H.C. Fletcher’s monetary situation are the first aspects of the technical perspective to be examined. The Old Lands Titles Office has a series of mortgages between H.C. Fletcher and John Hart and H.C. Fletcher and the South Australia Company detailing the borrowing of money. These documents cover the period between 1851 and 1872; ranging in amounts from £250 to £5000 (Lands Titles Papers 21538). All of these amounts were repaid, although the loans during the 1860’s had their payment time extended, and also included additional
money added to the loans. This was the period during which the Dunnikier Slip was bought and constructed; it was completed in March 1867. The family history written by H.C. Fletcher’s grandson, William Main Fletcher, and the newspapers of the time refer to Fletcher’s Slip as being a successful business (Fletcher 1987, *The South Australian Register* 19th March 1867, *The South Australian Register* 13th November 1866). Yet it would seem that at least until the Dunnikier Slip was completed and working H.C. Fletcher had had to rely on borrowed money to complete all of the necessary building works for both the Original Slip and the Dunnikier Slip. A newspaper article of the period details the building works for the Dunnikier Slip and the cost involved in the development of the Dunnikier Slip (*The South Australian Register* 19th March 1867).

The selection of the materials used to make the Slips can form part of both the T and P Perspectives. As part of the T Perspective there is the issue of available material, suitable material and cost effective material. As the survey results show a portion of the floor of the Dunnikier Slip still remains intact, as do parts of the Slip walls and some of the buildings on the site. The some of the blocks used in the construction of these features are ballast from ships coming to Port Adelaide. In the Slip construction, although not in the construction of the remaining buildings, are copper slag ingots. This demonstrates that H.C. Fletcher used materials which were readily obtainable and were cost effective, thereby keeping the cost of construction on the site down. H.C. Fletcher, as discussed above, had to borrow money for the building of the Slips and therefore was showing his acumen as a businessman in keeping his overheads down. The timber rails which form a part of the remaining Slip floor and have not been covered by concrete or
had any maintenance since the Dunnikier Slip was dismantled sometime after 1987. Yet the sketch of the Slip floor demonstrates the extent of their survival. Figures… show the extent of the preservation of these wooden rails. The selection of this hardwood for the rails by H.C. Fletcher has been shown to be an appropriate selection. The wood has survived since 1862/63 to the current day. Although the photographs sighted above also show that this wood is now deteriorating. The article in the *Register* which describes the building of the Dunnikier Slip describes the wood used as hard wood and later goes on to discuss the use of Swan River timber but does not establish whether these two woods are the same (*The South Australian Register* 19th March 1867).

The choice of the site for the two Slips is the next topic for discussion, although this is something which can also be covered under the auspices of the O or P Perspectives if there is evidence to suggest that these had played a part in the choice. Starting from the accepted version of the beginnings of Fletcher’s Slip we can find a simple reason for the building of the Original Slip on the site on the banks of the Gawler Reach. The Original Slip had been deposited here in pieces by the South Australia Company when they brought it from Kangaroo Island to Port Adelaide (*The Register (Adelaide South Australia)* 28th December 1926). As it had been deposited here there would have been a cost to the moving of the pieces as well as the actual moving. Therefore simply building it on this site would save money, time and the need to find another site. If we follow the family version of the beginnings there is a reason which is just as simple as to why H.C. Fletcher may have taken the land there and had the Original Slip sent there. The site was across the Gawler Reach from the wharf and docks where the shipping
unloaded and therefore ships could easily and quickly unload and then cross to go onto any Slip built there. This would seem a convenient place for a shipwright to establish a Slip. However, The Honourable Robert Storrie Guthrie, MLC, stated that the building of a Graving Dock on this site would cause a blockage of the end of the Gawler Reach (Parliamentary Papers, South Australia 1892, Pg. 53).

Although at this earlier period the vessels were smaller it is possible that the turning of the larger of these vessels to go onto the Original Slip could still have caused traffic problems. The site was a partially submerged swamp before the land was built-up from the silt dredged from the bottom of the Gawler Reach for the laying of the Original Slip. This would seem to be a technical reason for questioning the use of this site for the building of a slip. The Gawler Reach needed to be dredged to accommodate shipping and much of the land around the river was swampy and flooded at high tide. However the port had been established here, the river was being dredged and land on the other side of the river was being built up. The Dunnikier Slip was built on the land next to the Original Slip because H.C. Fletcher already had his existing workshops and machinery on site for use with the Dunnikier Slip (Parliamentary Papers, South Australia 1892, Pgs. 48-52). He was also able to obtain the land in fee simple from the South Australia Company on the promise that he would build a larger slip on the site, to deal with the growing size of the vessels visiting the Port (The South Australian Register, 19th March 1867).

As the size of the vessels used by the shipping companies increased there was a commensurate need for an increase in the facilities to deal with these larger vessels. The Original Slip took vessels of at least 1,000 ton. However, after a few
years, according to an article in *The South Australian Register*, the bottom portion of the tramway became faulty and the tonnage that could be safely taken-up had to be reduced (*The South Australian Register* 11th November, 1866). Soon after this the continuing growth of shipping at Port Adelaide and the increasing size of vessels led to H.C. Fletcher ordering a larger patent slip from the Dunnikier Foundry in Scotland. This slip was designed to take vessels up to 1,200 ton, but H.C. Fletcher had taken vessels of nearly 1,600 ton (*Parliamentary Papers*, South Australia 1892, Pg. 49). The *Register* article of 1867 states that the Dunnikier Slip was warranted to take 2000 ton; unfortunately the records of the Dunnikier Foundry do not include anything relating to the transaction between the company and H.C. Fletcher or the slips made during this period to establish which is correct (*The South Australian Register*, 19th March 1867). A work book held by Philippa Fletcher covering the period 18th October 1885 to 3rd January 1902 are incomplete due to the recycling of the book by H.C. Fletcher’s grandson William. However they do show that the Dunnikier Slip took between 45 and 21 vessels a year over this period for varying lengths of time. The Adelaide Steamship Company had all of the work needed on their vessels done at Fletcher’s Slip, except for those that were too big to be taken up on the Dunnikier Slip. Only two to four vessels needing to be taken up on the Dunnikier Slip for work in 1891 had been refused because of their size. Both H.C. Fletcher and The Honourable Robert Storrie Guthrie, MLC, in their evidence to the Parliamentary Graving Dock Commission in 1892 (here after referred to as the Graving Dock Com 1892), stated that the Dunnikier Slip was unsafe for the larger ships now being used by many of the shipping lines (*Parliamentary Papers*, South Australia 1892, Pgs. 48-53).
5:1:2 The Graving Dock

The fact that the largest slip at Port Adelaide could not take some of the vessels that were passing through the port for repairs or maintenance would seem to indicate that there was a need for a Graving Dock at Port Adelaide. The terminal for the Orient and P&O shipping companies was Sydney, therefore the repair and maintenance for these companies was carried out at the docks there. The chances of Port Adelaide becoming the terminal for these or any of the other large shipping companies was very small as long as the Sydney and Melbourne docks still functioned (Parliamentary Papers, South Australia 1892, Pgs. 48-52).

According to the evidence given by H.C. Fletcher to the Graving Dock Com 1892 a Graving Dock had become less financially viable since he had begun the work on his. H.C. Fletcher cited rising taxation, dropping property values and the population of the colony not increasing at the same rate as when he began as the reasons why a Graving Dock was no-longer viable (Parliamentary Papers, South Australia 1892, Pgs. 48-52). It is possible that the reference to dropping property values may have been a veiled reference to what he considered the drop in the value of his own property due to the Port Adelaide Waterfrontages Act of November 1886 (Lands Titles Papers 21538 and Port Adelaide Water Frontages Act November 1886).

The value of H.C. Fletcher’s land was estimated to have dropped from £20,000 to £4,000 due to the Port Adelaide Water Frontages Act of November 1886 (Lands Titles Papers 21538). The process leading up to the passing of this legislation closed down work on the Graving Dock for a year (Parsons 1986, Pg. 267). With the combination of the Graving Dock and the two Slips, H.C. Fletcher believed
that he could make a return on his investments on the Graving Dock of three percent or a little under when he began the work. The cost of the Graving Dock to H.C. Fletcher, from around 1884 to 1892, had been approximately £50,000 and he estimated that it would cost him between £100,000 and £140,000 to complete it, including all of the peripherals required for a functioning dry dock. At the time of the Parliamentary Graving Dock Com 1892, H.C. Fletcher had already decided that this was not going to be economically viable. He also stated his willingness to sell the Graving Dock if he found an offered price acceptable (*Parliamentary Papers*, South Australia 1892, Pgs. 48-52). As stated above H.C. Fletcher had relied upon loans to complete the work of building both the Original Slip and the Dunnikier Slip, according to William Main Fletcher the 1890’s Depression led to difficulties in gaining financial assistance. The family sold the farm, Prior’s Court, which H.C. Fletcher had bought for his son Henry, to keep the family business going (Fletcher 1987).

The Honourable Robert Storrie Guthrie, MLC gave evidence to the Graving Dock Com 1892 that the site chosen by H.C. Fletcher for his Graving Dock was not the best site. Guthrie preferred both Hawker’s Creek and the proposed North Arm site. The cross river position of Fletcher’s Graving Dock would mean that vessels entering the Dock would have to turn sharply and cut off shipping traffic (*Parliamentary Papers*, South Australia 1892, Pg. 53). Before the Graving Dock Com 1892 H.C. Fletcher stated that a Graving Dock was of little use unless it had all of the machinery and workshops and other necessary peripherals on site (*Parliamentary Papers*, South Australia 1892, Pgs. 48-52). Thus building the Graving Dock next to his two existing Slips, providing access to the existing
machinery and workshops, meant that H.C. Fletcher could cut the costs of establishing the Graving Dock. A second Graving Dock at the site was also viable should the need arise (Parliamentary Papers, South Australia 1892, Pg. 50). In his evidence before the Graving Dock Com 1892 H.C. Fletcher stated that the problem with the choice of the North Arm for a Graving Dock was the fact that this site did not have land access and was away from the workers living areas and the area where shipping loaded and unloaded. There was also the issue of the cost of having to build a cofferdam before any other work could begin (Parliamentary Papers, South Australia 1892, Pg. 50).

During the 1890’s there were dockworkers strikes at Port Adelaide. H.C. Fletcher was asked as part of the Graving Dock Com 1892 if the current labour troubles had had any effect on his work in Port Adelaide. He said that it had very little impact (Parliamentary Papers, South Australia 1892, Pg. 51).

In his personal recollections William Main Fletcher explains that the reason for the abandonment of the Graving Dock was that the family ran into problems with underground seepage. Although seepage from underground springs can be dealt with there are high costs involved in pumping to keep the water out and the actual sealing process (Fletcher 1987). Therefore the Graving Dock was never completed. This issue comes under the T Perspective because it covers; whether the site choice for a Graving Dock by H.C. Fletcher was viable; whether the seepage could be stopped and if so could it be done at a viable cost. As mentioned in the Historical and Archival Research section, according to The South Australian Register the shore of the Gawler Reach upon which the Graving Dock
was being built had not been considered suitable \cite{Register19thMarch1867}. It was considered that due to a lack of bedrock in the area a Graving Dock could not be built successfully. William Fletcher’s own recollections, as stated above, are that the family believed that the seepage could be stopped but that the costs were prohibitive in the economic climate of the time \cite{Fletcher1987}.

5:2 Organizational

A number of organizations were involved in the establishment and continuing business of both the Original Slip and the Dunnikier Slip including the South Australia Company, the Adelaide Steamship Company, the Government and the unions. Some of these organisations were formal established groups while others were more informal groups. All of these organisations had an impact on Fletcher’s Slip to a greater or lesser degree. The O Perspective looks at all of these groups and can deal with their contribution to the story of the Fletcher’s Slip.

5:2:1 Slips

The South Australia Company had initially brought a slip in pieces to South Australia in 1837, obviously realising that a new colony which would be reliant on ships for trade, travel and communication would be in need of a slip for the maintenance and repair of these ships. Yet this same company left the slip still in pieces at Kingscote on Kangaroo Island until 1845 \cite{Register28thDecember1926}. Whether the family’s version or the generally accepted version of the beginning of H.C. Fletcher’s part in the story is correct or not there is currently no explanation as to why the company chose not to build the
Original Slip or even move it to the mainland before 1845. The company records which were available made no mention of a Slip, except for the memo found which does not seem to relate to the Original Slip (South Australia Company Records). Thus the company’s motivation for bringing the Slip to the colony and yet doing nothing with it currently has no known justification. When H.C. Fletcher arrived he was able to buy the Slip and the South Australia Company also initially leased him the land upon which he built it (The Register (Adelaide South Australia), 28th December 1926). In order to set-up his business H.C. Fletcher needed funds. Some of these funds were leant to him by the South Australia Company (Lands Titles Papers 21538). The Original Slip proved inadequate to deal with the growing needs of the port so the South Australia Company sold further land to H.C. Fletcher at a low price for the specific purpose of building a larger slip. Again the South Australia Company demonstrated its understanding of the need for the colony to have adequate shipping infrastructure. Yet it delegated the task to a private individual rather than taking on the task itself.

At least part of the success of Fletcher’s Slip came from the fact that the Adelaide Steamship Company used it to repair and maintain its ships, although there were other slips at the port. An article in The South Australian Register describes a trip along the Gawler Reach visiting some of the slips along it (The South Australian Register, 13th November 1866). This support from the Adelaide Steamship Company provided a reliable source of income for Fletcher’s Slip. It was only when some of the company’s boats became too big for either the Original Slip or the Dunnikier Slip run by H.C. Fletcher that they began to send them to the other colonies for maintenance and repair, yet they continued to use Fletcher’s Slip for
all of the boats which it would take (*Parliamentary Papers*, South Australia 1892, Pg. 53). The reason for this support is not known, further access to the Adelaide Steamship Company’s records would be required to assess whether there is any documented evidence as to why this support occurred.

As the size of the ships entering the port continued to increase there was a commensurate need for the infrastructure of the port to develop to cope with it. This infrastructure was required to maintain trade, communication and transport between the colony of South Australia and the rest of the world. Yet the Government was not willing to pay for the development of it. In the article which describes the opening of the Dunnikier Slip one of the speeches quoted has a Member of Parliament, the Honourable W. Milne, stating that it is so good to have individuals who are willing to take on the responsibility of developing the colony without recourse to the public purse (*The South Australian Register*, 19th March 1867). The government of the colony therefore wanted to have the colony develop but wanted to avoid having to spend to achieve it.

The unions seem to have had little impact upon the success or failure of Fletcher’s Slip. During the dock workers strike the Slip continued to function and at the Graving Dock Com 1892 H.C. Fletcher when questioned on the issue of the unions affect on his business said that it had very little effect.

Whether the Marine Board had any lasting effect on the Dunnikier Slip is unknown. The dispute regarding the building of a dry dock at Hawkers Creek by the Marine Board led to the *Port Adelaide Water Frontages Act*, mentioned
above, which stated that the portion of the Dunnikier Slip beyond H.C. Fletcher’s property line must be removed or face high fees twenty-one years after the Act was passed. The Slip continued to function under the Fletcher family until 1917 when it was acquired by the Harbours Board. Whether the family paid the financial penalty is unknown. No documentation relating to this issue has been found. A survey covering the floor of the Gawler Reach immediately in front of the Dunnikier Slip would be required to see if there are any remains of the Slip.

5:2:2 Graving Dock

The Marine Board began to urge the Government to build a dry dock in 1878. In 1882 the Marine Board and the Engineer-in-Chief selected the government reserve at Hawker’s Creek, near Fletcher’s Slip as the site for the dry dock (Parsons 1986, Pgs. 266-267). The swampy river’s edge where H.C. Fletcher had begun to build the frontage for the Graving Dock in 1884 was actually Crown Land. The Marine Board began legal action in 1885 against H.C. Fletcher for building on Crown Land. This stopped work on the Graving Dock. Work was delayed until the passing of the Port Adelaide Water Frontages Act in November 1886 (Parsons 1986, Pg. 267). The Act of 1886, gave H.C. Fletcher access to the land he needed for his Graving Dock, also specified that the land within the Gawler Reach upon which the Dunnikier Slip extended did not belong to him and it gave him only a further twenty-one year lease on the land. After this time the slipway would have to be moved or penalties would have to be paid (Port Adelaide Water Frontages Act November 1886). The Marine Board still wanted to use the Hawker’s Creek site for a dry dock and the time limit put on the life of the slipway was useful to them. They still argued that the 1886 Act allowed H.C.
Fletcher to build-out too far and thus block their access to the proposed opening for their dry dock (Parsons 1986, Pg. 267).

5:3 Personal

The family story of H.C. Fletcher tells of his coming to South Australia in 1843 as ships carpenter to see what the business prospects were and therefore also avoid having to pay his passage out (Fletcher 1987). This would seem to indicate that H.C. Fletcher was willing to take calculated risks but that he was not willing to waste his money on a fruitless venture. The survey results of the Dunnikier Slip remains give further evidence of H.C Fletcher being very careful of how he spent his money on developing the Slips. He made use of ships ballast in the construction of the buildings, Slip walls and Slip floors at Fletcher’s Slip. H.C. Fletcher seemed to be willing to use the materials which were easily and cheaply available, as long as they were suitable, rather than increase his construction costs unnecessarily.

On 28th March 1889 H.C. Fletcher’s lawyers at Morialta Chambers sent a letter to the Lands Titles Department explaining the loss of value to his land. This letter detailed that the 1886 Act, which gave H.C. Fletcher title to the bottom of the river just off his land to accommodate the building of the proposed Graving Dock, also stated that the river bottom extending past the line on the plans did not belong to him. H.C. Fletcher believed that he owned the river bottom the Dunnikier Slip was on as part of his fee simple deal with the South Australia Company. The land that made up his shipyards had been valued at £20,000; he now valued it at £4,000. This was because of the loss of land and the fact that he only had a
twenty-one year lease before the Slip beyond his property had to be removed; therefore the land had lost its value as a functioning Slip (Lands Titles Papers 21538, *Port Adelaide Water Frontages Act November 1886*).

Captain John Hart was a strong supporter of H.C. Fletcher, and as is discussed above lent money to him during the period while H.C. Fletcher was building the Dunnikier Slip. Captain John Hart also intervened with the South Australia Company on behalf of H.C. Fletcher, which help is believed to have enabled H.C. Fletcher to gain the additional land required for the Dunnikier Slip in fee simple (*The South Australian Register*, 19th March 1867). Who was Captain John Hart and why did he take such an interest in H.C. Fletcher and his work in developing the Port Adelaide infrastructure. Captain John Hart had been a ships captain who became a prominent businessman in South Australia and a politician. He served in various Colonial Governments from the first elected Legislative Council in 1851 until 1871. He served in various roles, including member for Port Adelaide, treasurer and premier (*Australian Dictionary of Biography*). Captain John Hart’s interest in H.C. Fletcher and his business may have stemmed from his interest in developing the colony, but as a treasurer at different times and a member of government he may have wished to save the public purse. According to the *Australian Dictionary of Biography* he had a desire for greater economic development of the colony throughout his career (*Australian Dictionary of Biography*).
Recommendations

The Port Adelaide Heritage Review states that the Slip was dismantled so that the site could be put on the market as a development site. It recommends that the Slip floor and all stone structures on the site be retained and that any development on the site retains and demonstrates the links between the site and the water (Port Adelaide Heritage Review 1997. Pgs. 63-64). Despite its historical significance to South Australia and more specifically the Port Adelaide district, the site could possibly be subject to development. A townhouse development has been proposed for this area and has the backing of the State Government. Approval has now been given for the Port Adelaide Waterfront Redevelopment. The recording of the site or rescue archaeology of Fletcher’s Slip before the development should be carried out if the site is going to be included in the development. It is recommended that a full survey of the remaining buildings on the site of Northbank Marine and analysis of the building materials used be undertaken to determine where the ballast materials used in the construction came from. The development work scheduled to be carried-out on the Glenville Dockyards, of which the Graving Dock forms a part, may destroy any submerged remains of the Graving Dock. Northbank Marine is not currently scheduled to be a part of the Port Adelaide Waterfront Redevelopment and although government approval has now been given for the development these plans have not been finalised and it is still possible that this site could be destroyed by redevelopment. If the site is to be redeveloped an excavation of both of the Slip floors should be carried out to determine the extent of the work carried out in constructing it and the materials used below the surface level. As with the buildings on the site the construction materials used in both of the Slips should be analysed to determine what they are
and where they come from if possible. A full underwater survey, including bathymetric and possible side scan sonar, to determine the remains of the Original Slip, the Dunnikier Slip and the Graving Dock should also be carried out. This underwater survey could give a clear indication of the methods and materials used to construct the lower portion of the Slips. It could also be used to establish to what extent the Graving Dock was completed. Therefore this survey work could be of importance in gaining any information about the history of this part of Port Adelaide’s early infrastructure.
Chapter 6 Conclusion

The Multiple Perspectives Methodology of TOP used as a framework for the analysis of a site from the historical period allows for a clear combination of the many historical aspects of the site with the survey of the site. As Clarke said there is no more of a problem in using historical evidence and archaeological evidence than in combining archaeological and scientific data (Clarke 1973, Pg. 21). Therefore the use of TOP as the methodology for bringing the differing perspectives together can be seen as a useful tool for analysis. As can be seen in the analysis of Fletcher’s Slip the effectiveness of this combination has been limited by the minimal survey of the site. To make full use of the TOP analysis of a site a full survey would appear to be needed: although the historical survey can give a great deal of information regarding the site it cannot give full information of many of the technical details. It also does not allow for the verification of the historical records, which are often incomplete. This case study does however demonstrate that Multiple Perspectives Methodology, especially TOP can serve to bring all of the perspectives together, allowing the researcher to see the many facets of the answer to a question such as why the two Slips were built where they were and were so successful, while the Graving Dock along side of them was never completed. Before the project was begun Kingsley Haskett stated that the Graving Dock was completed to the point of having the gates put on and was abandoned due to seepage. Now it appears that the answer is much more complex.
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