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JAMES COOK UNIVERSITY AUSTRALIA

JAMES COOK UNIVERSITY OF NORTH QUEENSLAND

Robert Denis O'SULLIVAN

ENVIRONMENTAL ASSESSMENT OF BUILT HERITAGE AREAS

Submitted for the
Degree of Doctor of Philosophy

ENVIRONMENTAL ASSESSMENT
OF
BUILT HERITAGE AREAS

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Thesis Submitted by

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in 1995

for the degree of Doctor of Philosophy in

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(R.D. O'SULLIVAN)

DECLARATION

I declare that this thesis is my own work and has not been submitted in any form for another degree or diploma at any university or other institution of tertiary education. Information derived from the published or unpublished work of others has been acknowledged in the text and a list of references is given.

.../5/96.....

(R.D. O'SULLIVAN)

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ABSTRACT

The thesis constructs a spatial method to assess a built heritage area, for conservation and tourism, that weaves environmental and cultural considerations together. The spatial method was constructed in three steps. First, the cultural values that underlay the reasons for conservation and the ideas of quality were identified and named as purpose values and quality values respectively. Reasons associated with traditions were the most common purpose of conservation and the main quality values were story value, authenticity and aesthetics. Second, concepts were formed to categorize data, to assess an area and to assess individual places. Third, a spatial model of environmental assessment was constructed which has two cultural factors of need and knowledge which are brought to the environment by the assessor and two endogenous environmental factors of location and unity. The factor of need implements a purpose value and the factor of knowledge implements those concepts of data and assessment that are relevant to the need. Two sub-models of time and aesthetics were appended to the model to elaborate the factors of location and unity in an assessment for an historical or aesthetic purpose.

The method was used to assess the central commercial area in the historic gold mining city of Charters Towers in north Queensland for two purposes of conservation : a tradition of excellence in achievement and the aesthetic appeal of the outside of the buildings. Next, the model of environmental assessment was used with the contingent valuation survey method in a survey of residents' opinion

of the same area and their evaluation of alternative environmental objectives for its conservation. The model's factors provided statistically significant explanations for residents' opinion of the area, their attitude towards a hypothetical heritage authority and their willingness to pay for research and protection of the area. The survey found that residents would pay more for the protection of the area than for the protection of individual buildings they considered important in the area, but the difference was not statistically significant.

The thesis developed four matters of policy to consider after an assessment of an area and before starting an environmental plan for its conservation : the administrative power that is needed to regulate demolition and redevelopment ; the administrative principles to use in the preparation of conservation policy ; the economic effects of conservation ; and design principles for new buildings. The administrative power to conserve a built heritage area was not held by any level of government in Queensland in early 1995.

Parts of the research were published in O'Sullivan (1996a, 1996b).

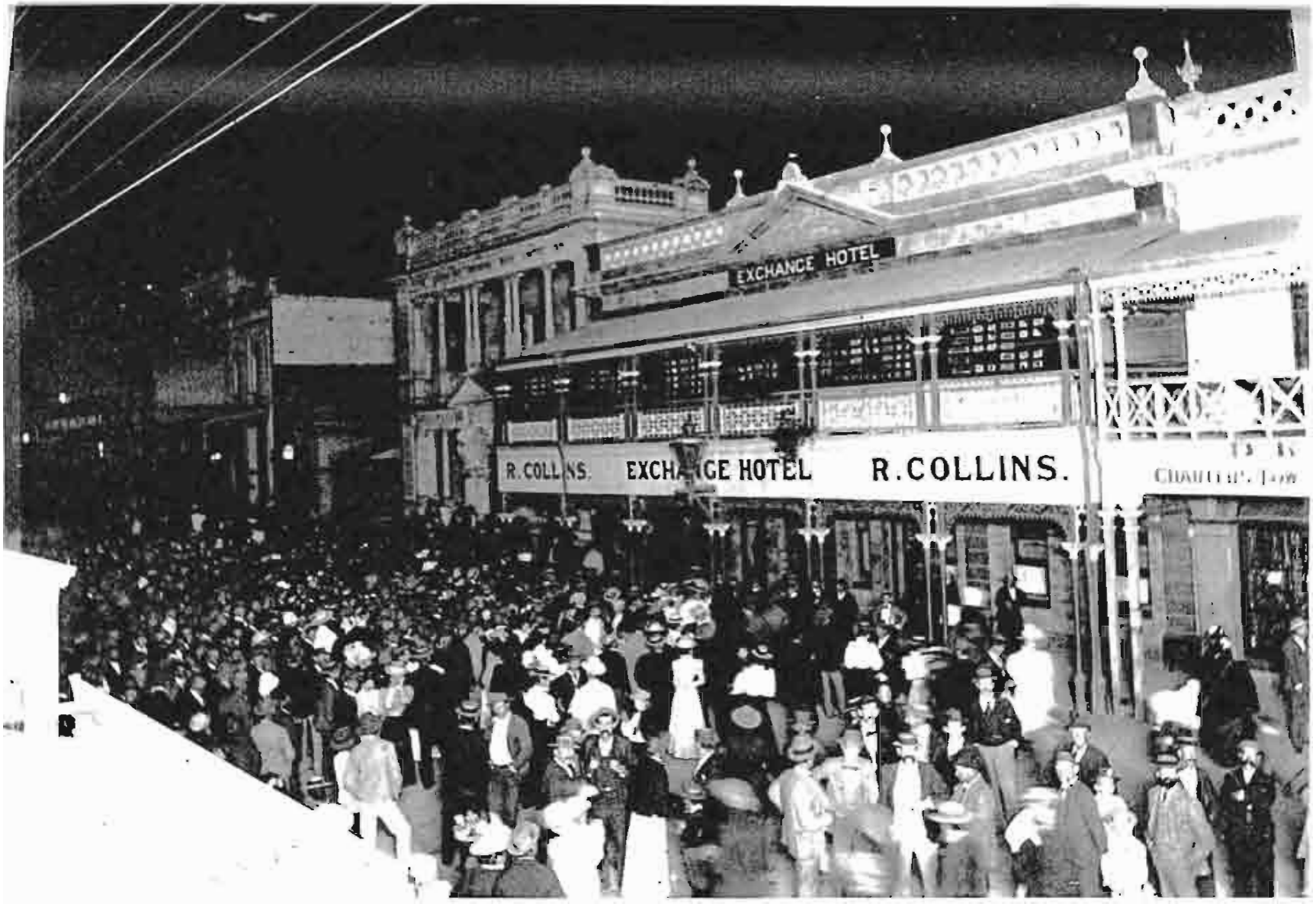


Figure 1.1 : Celebration of Australia's Federation in 1901.
A large crowd of Charters Towers residents at the intersection of Gill Street and Mosman Street, the traditional meeting place on special occasions (Source : John Oxley Library)

1 INTRODUCTION

1.1 Research Problem

1.1.1 Question and Focus

The central question in the thesis is :

What has to be done to assess a built heritage area ?

The meaning of the term "built heritage area" is discussed in Chapter 1.1.2 and in Chapter 1.2.6 after the literature review. Four research questions are formed in Chapter 1.2.7 for the development of the thesis.

Focus

The study has a focus on the assessment of old built areas, from a background in environmental planning and land surveying. The research is concerned with assessment and not with the subsequent process of conservation and planning, although administrative principles and design principles are developed that can be used in an environmental plan for the conservation of an area. The thesis does not research objectives for a conservation plan, or the conservation of individual places and their interiors or conservation by physical works. The last two matters are covered in literature such as Kerr (1990).

The two best known processes to preserve built heritage are physical works and statutory heritage registers. A third process is an environmental plan or town plan which is the document prepared by state and local government to regulate land use

including building development. An environmental plan can conserve a built heritage area because the two matters it is usually concerned with, compatibility of different types of development and the function of an area in a community service sense, are like the conservationists' concern for inappropriate new development and a cohesive expression of heritage values in the area.

The research is meant to be useful to environmental planners, people interested in the cultural appeal of an area for tourism and local groups wanting to preserve and present an identity for their historic area.

A case study is made of the historic central commercial area of the city of Charters Towers, North Queensland, Australia which began as a gold mining town in 1872. After gold mining almost ceased around 1920, Charters Towers continued as a centre of pastoral services and school education until a second phase of gold mining began in 1980. This lead to more commercial activity in the central commercial area and more recently to an interest in the following matters :

(1) What is important in an area of old buildings ? What would be of interest to tourists ?

(2) What should be conserved and how ?

(3) How to balance the conservation of old buildings with the future requirement for new buildings in the same area ?

It is a complex area of study and it will not be possible to explore more the major dimensions of the concepts that are developed in the research.

1.1.2 Meaning of Terms

In the Glossary, there are definitions of terms used in the thesis. The ordinary meaning of heritage and conservation (Barnhart, Nault, Zeleny, Atwood, & Murray, 1969) is :

> "Conservation - a preserving from harm or decay". (p. 450).
> "Heritage - what is or may be handed onto a person from his ancestors as land, a trait, beliefs or customs". (p. 983).

A definition of the conservation of a place is given by Marquis-Kyle & Walker (1992) :

> Conservation means all the processes of looking after a place so as to retain its cultural significance. It includes maintenance and may according to circumstances include preservation, restoration, reconstruction and adaption and will be commonly a combination of more than one of these. (p. 69).

That definition went further, with its restoration and reconstruction, than the following definition by Collins (1983) :

> Conservation is the planned management of a resource 'to prevent exploitation, destruction or neglect'. (p. 58).

In the literature, for example Marquis-Kyle and Walker (1992, p. 33) an area of old buildings is often called a precinct. The term "precinct" means "a district within certain boundaries, for government, administrative or other purposes". (Barnhart, et al., 1969, p. 1624). In the ordinary meaning of precinct, the purpose could be military, government or trade. A heritage area or precinct is therefore expected to be a bounded area for which there is a purpose in its conservation. One purpose for keeping an area of old buildings is the aesthetic value which means there is a pleasing composition or arrangement in the things that are seen, understood or otherwise perceived.

1.1.3 Statement Of Problem

A review of the separate legislation in Queensland for heritage conservation and environmental planning shows there is no administrative arrangement for the conservation of built heritage areas even though the heritage legislation provides for the conservation of built heritage places. The Queensland Department of Housing, Local Government and Planning (1993) issued a discussion paper on proposed planning legislation with comments about the conservation of built heritage areas.

The research problem arises from three directions : first, there is no provision in legislation for the conservation of built heritage areas in Queensland ; second, conservation schemes of built heritage areas emphasise the architectural characteristics of old buildings ; and third, there is no conceptual framework to assess a heritage area and to delineate it from its surroundings. Between these three facts there is a vacuum in which there is no provision for the conservation of heritage areas from an administrative or theoretical standpoint. This is the problem.

The conservation of heritage areas is a recent trend in heritage conservation and there is increasing speculative comment on the use of built heritage areas for tourism. Just as an explanation is needed for the conservation of heritage areas, an explanation is needed of a tourist's motivation to visit a heritage area. A heritage area as a place of interest to tourists cannot be considered apart from its context in a local environmental plan since all development, whether or not for tourist purposes, is invariably regulated by an environmental plan.

In the following Chapter 1.2, the state of current thinking about the assessment of built heritage areas is reviewed in literature from the fields of planning, history and conservation.

1.2 Literature Review

1.2.1 Background

The literature often uses the term conservation for the two separate activities of assessment and conservation. The review begins with the purpose of conservation, then moves onto its involvement in tourism and economic improvement and ends with the conceptual problems of what to keep and how to conserve.

The involvement of planners and architects in official plans for the conservation of historic places and areas can be traced back to the early planning legislation in Britain in 1909 which was preceded by the Ancient Monuments Protection Act 1882. (Delafons, 1994).

The subsequent legislation, in Britain and in Australia, characteristically called for conservation on grounds which include architectural and historical significance. The legislation has not undergone any fundamental changes in the purpose of conservation since 1909. In Australia, the legislation has concentrated on administrative machinery to protect individual places but there have been some initiatives to widen the purpose to the protection of built areas.

From the methodological or theoretical standpoint, the Burra Charter is often referred to as a guide to the conservation of individual places. However, it is not clear that the concepts in the Burra Charter can be extrapolated to assess and delineate heritage areas. For example, McCann (1992) discussed the concept of a cultural landscape and remarked :

> Despite a considerable amount of theoretical discussion and interest in the concept, however, there is still no commonly accepted method of identification and interpretation in Australia.(p.121).

1.2.2 Philosophies Behind Conservation

Russell (1993, p. 13) questioned the purpose of conservation :

> Institutionalized heritage heavily emphasises artefacts, and has generally failed to develop a satisfactory philosophy of why and for whom they are conserved.

Davison (1988) described the historical shift in meaning of the word heritage :

> Until the 1950s and 1960s it was applied almost exclusively to that core of traditions and values which one generation sought to hand onto the next. - - - It was not until the early 1970s, largely through the influence of UNESCO, that the idea of heritage was extended to the physical remains of the past - old buildings, crafts and landscapes - and only very recently that this has become the primary meaning of the word.(p.67). - - - More recently the word has undergone a further shift in meaning. It is now freely applied to almost any commodity that purports to reproduce past styles of architecture, furniture, household utensils or even food. - - - From the values of the past, to the things of the past, heritage has finally come to mean no more than a veneer of the past.(p.68).

The question mark around the cultural values in heritage conservation was noted by Joan Domicelj in the foreword to the Illustrated Burra Charter (Marquis-Kyle & Walker, 1992) :

> Australia ICOMOS is now exploring further questions on the meaning and use of significant places and on the cultural values they represent.(p.5).

Lowenthal (1985) saw a trend to a philosophy of representation :

> Preservation efforts formerly reserved for features of renown and widely venerated monuments are now extended to everyday neighbourhoods of purely local import.(p.388).

which was also noted by Baer (1991) :

> Historic preservation has tended over its history to go from saving a few structures of the elite to preserving a multitude of artifacts from a broad cross section of society.(p.38).

A paradox in preservation was raised by Lowenthal (1985) :

> And while preservation formally espouses a fixed and segregated past, it cannot help revealing a past all along being altered to conform with present expectations.(p.410).
> We can use the past fruitfully only when we realise that to inherit is also to transform.(p.412).

Lowenthal (1986) argues that we alter our heritage when we alter our heritage resource base and our interpretations of heritage. He says : "Yet our descendants will likely be as curious about us as we are about our forefathers".(p.45).

Baer (1991) also raised the quandary of what to preserve :

> To what era should they be preserved or restored, and to what degree ? Either it is reconstituted or reconstructed so that we can observe a present day model of historic reality, or we preserve the reality - not as it was but as it has survived.(p.35).

In the next part of the literature review, the issues involving planning, architecture and history are discussed.

1.2.3 Planning and Architecture In Conservation

The commentaries below criticise the singular focus in Australia on architectural interests. That is followed by a description of planning practice that is related to the criticisms.

In a reference to a decision to remove an historic wharf, Spearritt (1991) criticised the emphasis on architectural taste :

> The conservation of industrial heritage is determined primarily by taste and money rather than by historical importance or cultural significance.(p.33).
> Historians have been content to leave the question of taste to the architects, who regard themselves as arbiters of taste, whether they be conservation architects concerned with preservation or modern architects intent on demolition and creating their own structure from scratch.(p.33).
> The components of taste and the groups responsible for defining taste vary markedly from time to time.(p.44).
> A narrow view of what constitutes good architecture - that the structure should be aesthetically pleasing, that its materials should be notable, and that its former use should be intriguing - continues to bedevil the conservation of industrial structures and many other structures, especially in depressed regions.(p.44).

Fisher (1991) made the observation that heritage work :

> has been performed essentially by architects, town planners and other practitioners who are better trained in the appreciation of objects than documents and in the compilation of reports than theses, but also in the recognition of stasis rather than continuity.(p.69).

The literature encourages the conservation of heritage areas

but it offers very little explanation of how to assess or conserve. This situation is in contrast to the detailed explanations of how to assess and conserve individual places, for example in Kerr (1990).

The Burra Charter, first adopted in Australia in 1979 and later expanded, has been upheld as an example of the correct approach to be taken in conservation. Kerr (1982) claimed that :

> By 1984 Australia may well have the most developed and consistent built environment conservation doctrine in the world. The first part of this doctrine, the 'Burra Charter', has already received a surprising degree of acceptance.(p.72).

Freestone (1991, p.157) claimed "the standard set of principles for planning the care of heritage items is the Burra Charter", but he later revised his opinion because he considered :

> it no longer seems either realistic or defensible to approach conservation in monolithic Burra Charter terms as an end in itself. The inherent radicalism of a concept largely co-opted by a conservative 'heritage industry' - - - has also yet to be liberated.(Freestone, 1993, p.23).

Articles in the Australian planning publication *Urban Design Forum* (September 1993) drew attention to the problem 'how to conserve' with the following comments :

> (1) the seeking of past aesthetic values as a major source of standards for the future is questionable (O'Hare, 1993, p.1)
> (2) the profession is concerned with the emphasis on aesthetics largely expressed through guidelines which attempt to perpetuate a nostalgic style of architecture.(Holden, 1993, p.2).

Russell (1993) criticised what he considered to be the limited ideas of heritage and the practice of heritage conservation for not incorporating the entire cultural environment and for "promoting heritage as the curator of architectural style" (p.12).

Freestone (1993) says that along with the other characteristics of the 'identikit' postmodern city are :

> the conspicuously conserved buildings and neighbourhoods. They establish a clear nexus with the new 'tourist-historic' cities;
> Old and new are now integrated into single developments as complementary styles.(p.20).

Freestone (1993) said in a reference to New South Wales :

> heritage administration has become enmeshed in the statutory processes of environmental planning.
> the proliferation of conservation areas in which development is tightly controlled to perpetuate existing environmental character is surely the post-modern equivalent of the former 'residential district' proclamation used to preserve exclusivity under the Local Government Act. (p. 20).

The concern from Fisher (1991). Spearritt (1991), Russell (1993) and Freestone (1993) for the narrow content of heritage conservation is similar to Lowenthal's (1985) comment :

> preservation remains tainted by elitism despite its claims to popular support. (p. 403).

Baer (1991) pointed to the planner's problem of accommodating the new amongst the old :

> If the new must always bend to accommodate the old, the guiding light of our heritage will turn into the dead hand of the past. How should the new be integrated with the old, yet be true to itself at the same time ? (p. 39).

Planning Practice

Town plans for conservation aim to keep the character of a built heritage area by requiring that the architectural characteristics in existing buildings be included in new buildings. Historical and architectural matters are combined in one concept of historic architecture in order to provide the public with the planners' perception of a visual amenity.

This thinking may be due to the historical development of the discipline of planning in Australia, until at least the 1970's, from practitioners in architecture, engineering and surveying, and the logical input of architectural ideas into planning matters related to buildings. If planners in heritage conservation did not grasp historic architectural characteristics, where else could they find a concept for planning in a heritage area ? An interest in planning from disciplines such as sociology, geography and economics did

not appear until the 1970's. Planners accept the paradigm, still largely imposed by planners and conservation interests with a background in architecture or fine arts, because it logically reinforces planners' historic and general view that their task is to enhance or at least maintain the amenity of a locality. The basis of this approach is questioned because the replication of the characteristics of old buildings in new buildings may create an illusion of old buildings and so reduce the importance of authentic heritage from which cultural values, in addition to those of architecture, can be read. This description of planning behaviour indicates planners are part of the problem.

The approach by planners towards conservation is based on a practice in architecture in which, to make a new building fit into an area of existing buildings, a study is made of the existing buildings for similarity in height, roof shape, windows, fencing, etc., and a new building is then made similar to the existing building styles. An example of the architectural practice was given by Simonds (1983) in his Law of the Same :

> Architectural harmony may be perceived or created in a structure or a composition of structures that attains order through the repetition of the same elements, forms, or spaces.(p.243).

The elements of this approach are in planning schemes with guidelines for new development in heritage areas and non-heritage areas alike. Examples are the Spring Hill - Petrie Terrace Development Control Plan in Brisbane and the town plans that are reviewed later in Chapter 2.5.

Faludi (1973) argued that British planners took their ideals from utopian thinkers and they have a "love for formula making" (p.56). Faludi made three observations about British planning :

(1) planners found it convenient to borrow their models of the future from a past ideology.

(2) an overemphasis on "preservation" as the aim of planning at the expense of "change". (p. 59).

(3) a British value on smallness. (p. 83).

These aims are recognizable later in the reviews of assessment studies in Chapter 2.4 and town plans in Chapter 2.5 which relate to some settlements in Queensland. Queensland, like the other Australian states, took its ideas for planning from England and, to a lesser extent, America. English administrators brought their system of public administration with them when they colonized Australia. As the settlements grew, there were incremental borrowings of legislation, practice and fashions from England which continued in the subsequent periods when the colonies became self governing states and later a federation.

English ideas of planning were well received in Australia. Barrett (1918) supported the aim of the Town Planning and National Parks Association of Victoria for legislation with more powers than the British town planning legislation of 1909. Melotte (1988) argued that the first Commissioner of Town Planning in Western Australia "continued the tradition of drawing on planning legislation from elsewhere, particularly England - - - made additions and deletions adapting the 1909 and 1919 English Town Planning Statutes to draft Regulations for the new Western Australian Act" (p. 21). Freestone (1988, p. 20) found "The metropolitan plan prepared for Sydney by the Cumberland County Council - - - was the seminal postwar blueprint in the British tradition".

In 1951 a federal institute was formed to amalgamate the separate associations of planners that were in most states. Denis Winston, who had English qualifications, was first president. McLoughlin (1988) named several overseas guests from England at that first meeting and commented the institute "adopted the aims of the British Institute almost *verbatim*" (p. 16). The institute soon obtained the name of Royal Australian Planning Institute and accepted members of the British institute who came to Australia, even though the British institute required Australian planners to pass an exam. Coleman (1971) and Garnaut (1995) also found that Britain was the main source of planning law and practice.

1.2.4 History In Conservation

Davison (1987) reminds that the heritage legislation introduced the idea of architectural or historic importance in the belief that historians would be able to draw up lists of buildings of historic importance as architects do for buildings of architectural importance, but :

> This is a harder task than might at first appear and it is perhaps not surprising that historians have so far failed to produce such a list.(p.21).

Perspectives of History

Davison (1988) interpreted some of the contemporary uses of history in visual rather than literary form in a framework of three types of history "the monumental, the antiquarian and the critical" (p. 56) which he described as :

> Monumental history serves the needs of the man of action who looks to the past as a source of moral inspiration and example. Monumental

> history - the forward looking outlook of the man of action - is the natural mode of historical consciousness in new lands.
> Antiquarian history caters for the backward looking conservative soul who values the past, and the things of the past, simply for their antiquity.
> Critical history is the viewpoint of those who suffer the burdens of history and who see a radical rejection of the past as a precondition for their deliverance.(p.56).

He qualified this description by saying that the three types of history "are not independent entities but interconnected and mutually corrective modes of historical thinking".(p.74).

Monumental history is often expressed in plaques that commemorate achievements, in statues of famous or authoritative individuals and in buildings, which need not be old. Sydney's Opera House is a monument to modern building design and building capability. In Brisbane, the Commissariat Stores of 1829 is a monument to a penal colony and government. Davison (1988) explained :

> The slow decline of monumental history, I wish to argue, was the precondition for an extraordinary, and unforeseen, resurgence of a form of antiquarianism which now also challenges the third of Nietzsche's historical trinity, critical history.(p.56).

Davison (1988) claimed that "If Australians have lost the monumental sense of history they have not ceased, however, to commune with the past".(p.66). The form of antiquarianism he refers to includes folk museums. and :

> Historical theme parks and 'living history' museums take the process a stage further by enabling the visitor imaginatively to re-enter the past.(p.70).

The practice in the American National Parks Service also has an emphasis on antiquity. Miller (1991) described a project to define the breadth and depth of the Civil War :

> We are interested in locating not only hallowed ground where heroes fell but also the historic terrain as well as features - roads, buildings or stands of trees - that guided the military action and now have become part of a surviving historic landscape.(p.18).

Others in America research and preserve the houses and farms of immigrant groups so "they can be used today to tell the ethnic story" (Mack, 1991, p. 19).

Evans (1991) says in relation to historical theme parks and other recreations of historic areas :

> Like all forms of history - oral transmission, written or filmed accounts - recreations do not present an unmodified, unideological history. (p. 142).

The potential in Australia for heritage conservation to find a basis in critical history appears very limited. According to Davison (1988) :

> Unlike the statues of monumental history or the museums of antiquarian history the physical signs of critical history are essentially ephemeral. (p. 73).

Lowenthal (1985) reminds that some things are better forgotten :

> Preservation holds little appeal for those whose sense of the past is sullied by insalubrious memories. (p. 403).

The places that have been preserved in Europe as reminders of genocide are well known. They are preserved to remind and to avoid similar mistakes in the future. In Australia, places of conflict or injustice are not given similar attention. A critical sense of history may not yet be desired as a heritage in Australia.

Interaction in the Past

A history of interaction between people and their environment can be a basis for a heritage area. Spearritt (1991) distinguished the historian's interest in building structures from that of the architect :

> Historians on the other hand are likely to be interested in the structure for what it may say about working conditions, or for what it may say about the streetscape (they share this concern with architects) or for what it may say about the economic climate of the time. (pp. 42-43).

On a similar note, Fisher (1985) gave an idea of how to use history to determine which part of an old area to keep :

> It is not so much the detail of history that empowers us but an awareness of the systems or contexts that have given rise to the way we are. In our delineation of these contexts lie the keys to the detail to be preserved.(p.34).

Alanen (1991) said the American National Parks Service (NPS) promulgated a definition for cultural landscapes :

> that the cultural landscape represents a unity between human and natural phenomena, and that it often provides 'background' for gaining a better understanding of people and events.(p.21).
> The NPS definition stresses the concentration, linkage and continuity of natural and human elements in the vernacular landscape -
> Continuity is the crucial factor in these agricultural landscapes -
> Though these landscapes may be scarred, desecrated or visually chaotic, they also represent the interaction of natural and human forces.
> - a landscape that represented the responses and actions of immigrants.(p.23).

A history of human and natural interaction is consistent with Fisher's (1985) systems or contexts and Russell's (1993) call for :

> A social and environmental relations model of heritage : weaving parts together.
> With an eye to informed debate it would emphasize an educational role for heritage and history.(p.14).

The two ideas of interaction of human and natural forces in a heritage area and social-environmental relations are similar and they imply a spatial explanation of heritage in a heritage area.

Lowenthal (1985) supported the idea of a heritage of interaction from the past to the present where he said "We require a heritage with which we continually interact, one which fuses past with present".(p.410). Similarly, McCann (1992) claimed "the importance of the landscape as heritage lies in the way people have interacted with their physical environment over time"(p.122). She proposed that :

> A cultural landscape is defined by common historical themes or patterns of development and use. A starting point for assessing the area of study is to identify the general themes and places already known.(p.123).

One way to establish historical significance is to show a history of people interacting with their environment.

Traditions

There is a thread or theme of tradition in the statement of significance in Freestone's (1991) study of an old disused maltings factory at Mittagong which unites the points of significance :

> Historical : the site stands as a reminder of The Maltings early and enduring importance to the industrial development of the town of Mittagong in the late nineteenth and early twentieth centuries.
> Scientific : The Maltings is the best extant example in NSW of a traditional malthouse. The form of, and surviving equipment in, the complex - - - indicate the influence of British traditions.
> Social : The Maltings has a strong association with Tooth and Co.;
> Its industrial history is characterised by long serving employees skilled in the traditional malting process.
> The construction of Malthouses Nos. 1 and 3 helped confirm the growing reputation of - - - as major industrial/commercial builders in Sydney.
> Architectural : The main malthouse buildings are outstanding specimens of industrial architecture of the Federation era.
> Aesthetic : The lawns and trees of The Maltings are attractive landscape features in their own right -. The parklike setting complements and enhances the built forms.(pp.157-158).

Vision For Future

Russell (1993) argued heritage can be a guide in planning :

> The potential remains that heritage could be less a collection of special things than a vehicle for understanding the past better, and a more positive tool for helping to envision and plan the sort of environment we want.(p.15).

Freestone (1993) also sees heritage as a source of inspiration for the future :

> The past has become a source of ideas and inspirations, with a kind of forward looking retrogression taking hold.(p.20);

According to Wagner (1991) : "By incorporating historic preservation into their comprehensive planning process, local government can help ensure that historic resources help to shape the community's vision for the future".(p.25).

Lowenthal (1985,p.406) had a different opinion : "Remains are most admired when new ideas or technology make them obsolete" and he disputes the proposition that historic places can

be a source of inspiration for the future :

> Such relics seldom become sources of creative inspiration ; they are valued for their own sake, not for how we might reshape them. We save old buildings but rarely or ineffectually use them as models.(p.406).

Lowenthal's comment is a challenge taken up in Chapter 4.4.9.

1.2.5 Economic Effects and Tourism

Keeping old buildings has an economic effect even though this may not be explicitly acknowledged. The effects are identified later in Chapter 5 and found to be wide ranging and large in some situations. They are important in the economic test in section 38 of the Queensland Heritage Act 1992. Minnery, Cameron. Brown, Newman, 1993) argue that :

> Because of the importance of public interest factors and of land use planning externalities it is felt that urban planning evaluations should incorporate relevant stakeholder objectives.(p.11).

Lowenthal (1985) makes the point :

> that preservation is never just an expense ; it means keeping a capital asset.
> Far from wasting resources, saving and reusing historic buildings often makes economic and social sense.(p.400) ;
> In fact, the allocation of neither costs nor benefits is well understood. The drawbacks go beyond repair and maintenance costs. Saving old things runs counter to the very spirit of modern enterprise.(pp.401-402).

In a theme of economic rejuvenation, Wagner (1991) refers to communities that "have stabilized and enhanced their older residential neighbourhoods through the preservation of their housing stock"(p.15) and used "historic preservation as a basis for revitalizing their downtown and neighbourhood business districts".(pp.15-16). Dehart (1991) apparently distinguishes the different economic effects of conservation on residential and commercial land and asks :

> Can historic preservation become a central urban design theme for down town development — will it inhibit growth ? Where will new development occur and at what cost to the marketability of new space, if

> it must avoid historic downtown sites ? Will a preservation-first downtown policy work only in cities in which tourism is a leading industry ?(p. 18).

Purcell (1991) described how :

> most municipalities and counties are confronting declining agriculture-based economies.
> - communities are actively involved in heritage or cultural tourism programs or projects because they realize the positive impact these programs will exert on their economic future.(p.13).
> - these cultural resources draw valuable tourist dollars.(p.15).

Wagner (1991) claims :

> Perhaps the strongest argument for local government's support of historic preservation is its role in economic development. Since the passage of the first tax benefits for rehabilitating income producing National Register properties in 1976, in excess of $14 billion has been invested in more than 21,000 buildings.(p.15).

In Australia there is no differential tax benefit for National Estate properties. However Wright (1994,p.23) reported :

> The Australian Heritage Commission and the Australian Cultural Development Office have been working on a new taxation incentive scheme which will encourage owners of heritage listed properties to carry out approved conservation works - through a competitive selection process for income tax rebates of 20 cents in the dollar.
> the scheme to be capped at $1.9 million per year - is expected to generate approximately $9.5 million in heritage conservation works each year.

This amount will not go far on a few major buildings. The scheme was advertised (29/10/1994) but, at least for some time, local government cannot expect economic development from tax incentives for investment in National Estate properties.

Freestone (1993) notes there is now a debate :

> regarding the relationship between heritage conservation, creative design, and budgets.(p.21).

He shares Spearritt's (1991) concern that taste and money affects heritage conservation and says "heritage in the postmodern city, like other commercial products --- has become a commercial commodity".(p.22).

Tourism

The literature below shows that one of the purposes in keeping historic buildings is to improve the economic position in economically depressed areas by marketing the area as an attraction to tourists. The literature discloses two potentially conflicting views of the interests of tourists. The first interest is in superficial entertainment and the second is to establish a continuity of family/social identity with the past. The two views are likely to lead to different assessments of an historic area. Davison (1988) reported at Sovereign Hill in Ballarat :

> There was also a secondary, and increasingly important, aim : to secure the town's economic future by the creation of 'one of the great tourist attractions' in the state.(p.71).

Geiger (1991) studied efforts to promote Florida's historic sites as tourist destinations. A controversial aspect arose when participants in a study to define historic sites considered historic re-creations or undeveloped natural places to be historic sites :

> They often did not distinguish between authentic historic properties and an assortment of other sites.(p.8)

Authenticity was important for visitors to two Australian historic theme parks studied by Moscardo and Pearce (1986) :

> visitors to historic theme parks do perceive the experiences they have as authentic and seek authenticity.(p.473).
> the majority of the visitors felt that authenticity was an important feature of historic theme parks.(p.474)

Geiger (1991) also reported that :

> visitors were coming for a good time. They are on vacation. Most just want to capture the overall flavor of an area without studying it. Therefore, it seemed to us that the task for those who want to promote historic sites is to present them in a way that is traditional for the tourism industry as opposed to the way that would be common within the preservation discipline.(p.9).

Tourists' needs are discussed in Chapters 2.2.7 and 2.6.2.2. "Better a misinformed enjoyment of history than none" was

Lowenthal's (1985) response to "Disneyfied heritage" which he considered more popular than the "many scrupulously kept survivals or laboriously self conscious post-modern creations". (p.408).

Davison (1988) said of Sovereign Hill at Ballarat :

> manager and curators have skillfully balanced these educational and commercial objectives. They are proud of the historical skill and technical ingenuity behind their reconstructed buildings and landscapes. - - - high staffing costs and the customer's notion of a happy family outing severely circumscribe the kind of 'living past' which the visitors re-enter. (p.71).

Purcell (1991) described a case study of cultural tourism in Alabama and Georgia that is based around mini-tours :

> Well over 40,000 people annually visit Westville, a working village of relocated authentically restored buildings that depicts the handicrafts and culture of 1850 Georgia. (p.14).

Lowenthal (1985) emphasised England's economic dependence on tourists for the money to keep old places :

> Visits to historic houses, ancient monuments, and old churches rank first in popularity with foreign tourists ; visitors contribute half the income of several cathedrals and over two thirds the running costs of Westminster Abbey ; building preservation in small towns and villages 'is clearly the most vital factor underpinning their income from tourism'. (p.401).

However, Lowenthal (1985) also maintained :

> It is to disclose continuities, rather than to flaunt fame or antecedence, that many today explore family pasts. (p.409).

Another tourism researcher, Ehrentraut (1993), identified four factors that put authenticity on a continuum of alternative states rather than an absolute position. These four factors are the selected date for restoration (period selectivity), the use of period actors (animation), the degree of 'cleaning up' (sterilization), and original location or relocation. He argued that "any authenticity claimed for a heritage structure consequently remains the social construction of its assessors rather than the intrinsic property of

the object". (p. 270). From his study of visitors to Japanese rural heritage places he found :

> In the broader context of rural tourism in general, the data clearly support Gradburns (1990) central proposition of a nostalgic search for rural antecedents. (p. 275) ;
> for Japanese tourists, the domain of the familiar becomes expanded to include the larger social collectivities of which they are members. In short, by visiting a heritage site, they are both consuming and expressing an authentic element of regional and national identity. (p. 276).

Ehrentraut (1993) argued that the average Japanese visitor to a rural heritage site is on a :

> pilgrimage through the cultural landscape of Japan.
> - - - an indigenous contrast to the pervasive Westernization and internationalization of the modern urban environment. (p. 276).

Finally, Pape (1991) described how cultural landscapes shaped by immigrant groups "have become valuable resources for researchers and students" and :

> in a massive program of cultural landscape preservation, interpretation and promotion - - - ethnic guide books will introduce visitors to Wisconsin's ethnic past. (p. 28).

The tourism literature indicates that what is important from a visitor's perspective is not the architectural authenticity of a place but its monumental authenticity to which the visitor can give a meaning and with which the visitor can personally associate.

The examples above indicate that the conservation of a heritage area and tourism have compatible economic interests. While this may be true on the demand side, from tourists, and on the supply side from commercial operators of heritage theme parks, it is not generally true for residents or for government appointed conservation bodies unless they are operating under profit-oriented guidelines. Lowenthal (1986) warned :

> heritage displayed for visitors is seldom what locals most esteem. No interpretive mode can cater alike for both resident and outsider. (p. 43).

The tourism literature implicitly recognises this problem by shifting its attention away from welfare-oriented heritage conservation to authentic re-creations or restorations. There seems to be no necessity in principle for tourism to avoid heritage areas that are conserved for welfare objectives, provided the tourist facilities do not intrude into the heritage area. This seems to be the position that tourism has adopted in relation to conserved natural areas and archaeological areas, and there is no apparent reason, again from the demand side, why the two should not be compatible. The breakdown occurs when the economic forces in tourism begin to take over a heritage area as Richards (1982) reported :

> The New Orleans experience is that the only businesses wealthy enough are fast food outlets, T-shirt shops, massage parlours, dirty book stores and X-rated movie houses.(p.67).

The conservators of natural and archaeological areas overcome the economic forces by their authority to control the entry to, and use of, these areas. Controls may be needed over building use in order to conserve a built heritage area.

The conclusion from the literature is that the assessment of a built heritage area should only consider the interests of tourists that relate to the cultural heritage value of the area. This position is adopted in the thesis and it accounts for the tourists' desire for authenticity. The conservation of built heritage areas and their presentation to tourists are not part of the thesis.

1.2.6 Discussion of Direction In Literature

There was a clear point in the literature that a built heritage area should portray a heritage of interaction of people with their environment. However, there was no clear statement in the literature of what heritage is, whether it is the area of buildings or the cultural values that produced the buildings in that area. It

is likely that the two meanings are interchangeable unless the meaning is clarified in the context in which the term heritage is used. Either meaning is possible in the literature and each is included in the definition of heritage by Barnhart *et al*. (1969) in Chapter 1.1.2. Definitions of 'heritage' and 'heritage area' that are consistent with these meanings are in the Glossary.

The literature indicates tourists are not troubled by authentic-looking reproductions, restorations and relocations. They are looking for an enjoyable outing and technical questions of authenticity do not necessarily obstruct its attainment. Visitors relate to heritage areas which service their sense of identity in their ethnic or rural antecedence, and to areas that provide a different experience to that in their usual environment.

Process in Conservation

There appear to be three different policy routes in which heritage conservation can proceed and once a route is accepted it is likely to affect the direction of the assessment of the area. No route can be said to be the best because local circumstances and opinion will have an influence and any one or all three routes may be appropriate to some degree.

The first route is to present an image of the past for entertainment (the quaint and obsolete past). The first route re-enacts the past and it requires the presentation of at least an authentic recreation. Technical authenticity in terms of history, location or materials do not seem necessary although an authentic regional context is likely to be necessary. An example is a reconstructed or relocated historic settlement in which there is a theme of former development and use. Another example is an old business centre that is promoted as historic for the purpose of economic rejuvenation.

The second route is to preserve the buildings of the past and to perpetuate the architecture of the past in new buildings, because the past is valued for itself. An example is the current approach in heritage conservation through environmental plans. This route provides an earlier heritage of land and buildings but it does not pass on a continuous heritage of beliefs and customs unless the present generation abstracts an "essence" of a cultural value from the old buildings and incorporates it in new buildings.

An example of an 'essence' of heritage is provided by woodchopping. It was described as a 'heritage sport' in a proposal to set up a woodchoppers' hall of fame in Latrobe, Tasmania (Australian Broadcasting Commission 1/4/94). Woodchopping was once an interaction between people and nature for a livelihood. The natural context is no longer generally available to woodchoppers in Australia and the use of an axe for timber-getting has largely disappeared, but the essence of woodchopping, physical skill applied to an axe and a tree trunk and danger, is maintained in a competition instead of a livelihood. The heritage is the skill of woodchopping, a human interaction with the forest, which has been taken from its origin in the forest and placed on show to the public. The forest is no longer essential to the interaction between natural and human forces. In terms of the definition of heritage by Barnhart *et al*. (1969) in Chapter 1.1.2, a woodchopping show represents a heritage of customs and not a heritage of land. The example has some similarity to the reproduction of old architectural forms and characteristics in new buildings which is also a skill that draws on the past. However, an important difference is that a woodchop show does not try to re-create the past.

The third route is to define the heritage of cultural values in

the heritage area, describe how that heritage has been adapted and continued by the present generation in old and new buildings in the heritage area, and prescribe the way in which the inherited cultural values will be incorporated in new buildings in the heritage area. This is a normative route which appears to satisfy the general requirement in the literature that a heritage area portray a heritage of interaction of people with their environment. This route will define what is monumental or worth handing on to the next generation and so provide a continuous heritage which the next generation may extend. It assumes that a heritage of interactions previously in old buildings can be carried on in new buildings in a heritage area. The third route presents a heritage that can be adapted by present and future generations to meet their needs. It is authentic in terms of the inherited cultural values and the old buildings which provide a continuing media of heritage values in that locality.

Routes 1, 2 and 3 respectively in effect commercialize, replace and adapt the heritage. The first and second routes present an 'antiquarian' view of history while the third route is a 'monumental' view (Davison, 1988) of a guide to the future.

Continuity of Heritage

It would be inexplicable to hold to a position that there should be continuity in the aesthetic characteristics in a group of buildings (Route 2) but not hold a position that requires a continuity in heritage over time.

If a heritage area is to portray and pass on a continuous heritage, in land or in beliefs or customs, a set of principles is needed to guide the future development that can be expected after fire and decay in old buildings. A heritage of interactions of people with their environment should be continued in a building

form appropriate to the current generation and as a heritage of buildings and customs for the next generation. A heritage of aesthetic values in buildings and their environment should be continued in new buildings in a form appropriate to the current generation, again as a heritage for the next generation.

The matter of continuity and discontinuities arises across the literature. This reflects the uncertainty as to which era and whose heritage to conserve. The literature referred to traditions in the significance of places and it seems plausible that a heritage of tradition is one way to provide a continuous heritage in community interaction or architectural aesthetics through time, to avoid the antiquarian artifact tag which can be put on Routes 1 and 2. The tradition could be promoted as a vision for the future, which some literature called for while other parts were sceptical. In principle the notion of tradition can embrace the ideas of continuity held by architects and historians and it gives the line of heritage that increments itself through time. The idea of tradition opens up the way to nominate specific reasons for embarking on an assessment study of a heritage area.

1.2.7 Research Questions

Heritage Values

It is clear from the literature that the substance of heritage conservation is not constant and it varies with the background and interests of the authors. This means a set of heritage values, which incorporate the values of different groups, including residents and tourists, is needed to describe the cultural significance of different heritage areas.

The literature has a concern that environmental planning perpetuates past architectural styles and neglects other matters of cultural heritage. The reaction to that concern is for more

representative heritage and for classes of heritage to be conserved. The literature does not provide a system of values to select the representatives or classes but they should show an interaction of human and natural forces and provide a context in which to find the items to be preserved. In a representative approach, will traditional cultural values still be the heritage to be passed on ? Will the conservation of heritage areas result in only the representative, common and uninspiring values being passed on ?

The values underlying heritage assessment and conservation need to be examined because they determine the substance, purpose and representation of interests in an assessment of a heritage area and its conservation. The first research question is therefore :

(1) What are the cultural values that explain why, and which, old buildings and areas containing old buildings should be conserved ?

Theory of Assessment

To connect the purpose of conservation to the old buildings in an area, there is a need for a theory that explains how that purpose of heritage is understood in the spatial context of a heritage area. The theoretical explanation should indicate which buildings are important to that heritage, whether it be a heritage of buildings, a heritage of customs in interactions, or a heritage of beliefs in aesthetic values, and it should guide new development to continue the heritage. A theory or conceptual framework for the assessment of a heritage area is needed in order to know what questions to ask when preparing a plan for conservation. The theory should enable an inquiry into the

nature of the public perception of heritage so that the eventual objectives are likely to get support from the general community. The theory should also provoke some confidence that the question of the proper boundary for a heritage area can be settled so that the area can be logically distinguished from its surrounding environment. A theory of environmental assessment is needed to enable anyone to question whether the effects of proposed conservation objectives and principles for infill development will support the conservation and promotion of the cultural values attributed to a heritage area. The second research question is :

(2) What principles and methods exist or can be developed to explain the concept of heritage in an area of old buildings and to differentiate the area from its surroundings ?

Economic Considerations or Interests

It is speculation to assume that planning controls for heritage conservation will restrict or rejuvenate a heritage area. The economic effects of conservation are not part of an assessment but an understanding of the broad possible effects should be available to decision-makers before an assessment is made. The third research question is :

(3) What are the economic effects from the conservation of a heritage area ?

Conservation Rules

There is the question of administrative procedures that enable the private and public interests to be balanced and the

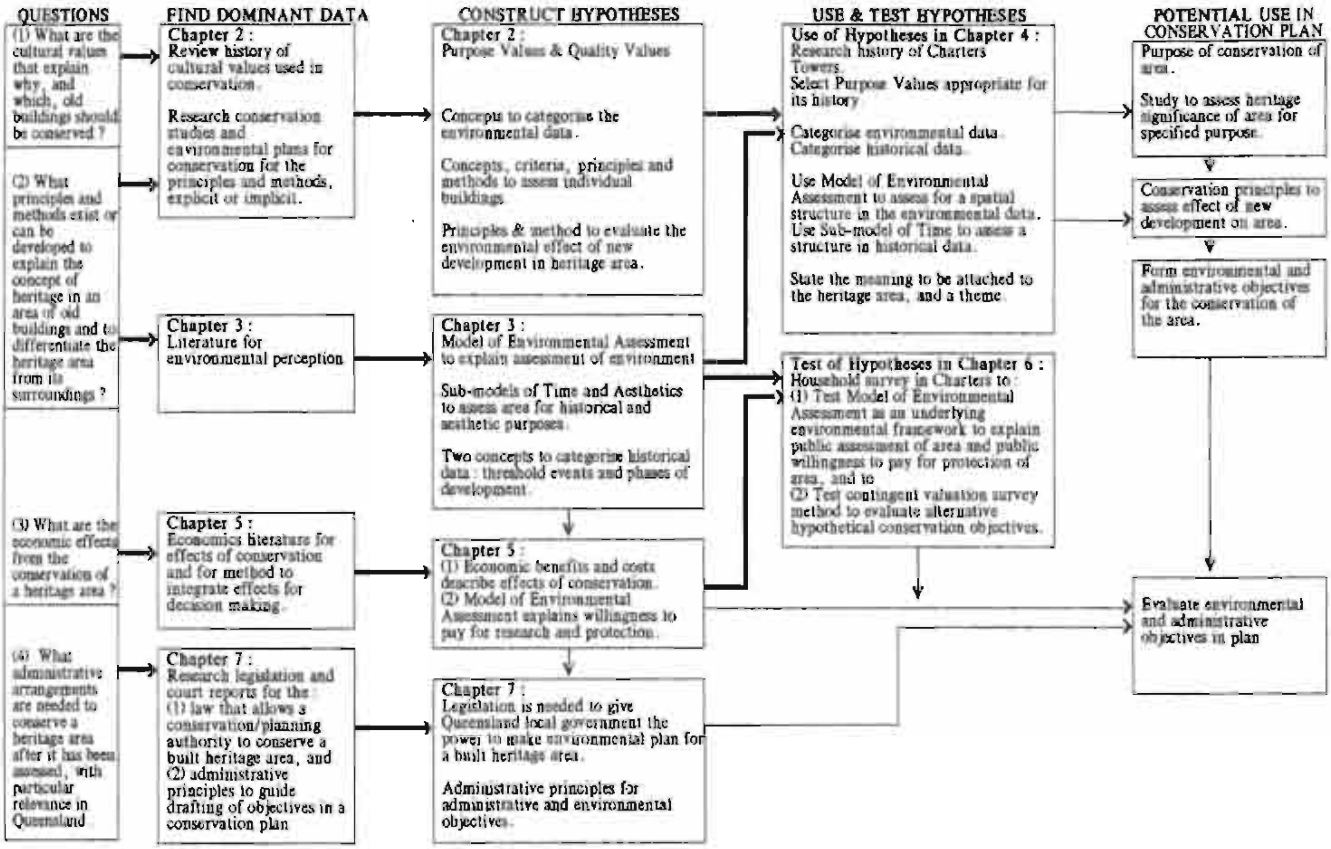
conservation plan to be given legal effect. After an assessment of an area, the setting of rules for development is an integral part of conservation and to keep old buildings there must be rules to prevent their demolition. These rules depend on the powers given to heritage conservation authorities and planning authorities to carry out the conservation of heritage areas. The fourth research question is to identify these powers :

(4) What administrative arrangements are needed to conserve a heritage area after it has been assessed, with particular relevance in Queensland.

The four research questions are the starting points to develop a method to assess a built heritage area. Any specific factors that are pertinent to tourists, because they are visitors, can be included in answers to the questions. The research to answer the four questions is in Chapters 2 to 7 in the body of the thesis. A description of the data and the method in those Chapters is given in the following Chapter 1.3.

Table 1.1 provides a path of the research through four stages of setting research questions, finding the dominant trends in data that are relevant to the questions, constructing hypotheses which are the answers to the questions and then applying and testing hypotheses in a heritage area. The right hand side of Table 1.1 shows how the parts of the research are intended to be applied in a hypothetical conservation plan for a heritage area. The thesis does not prepare a conservation plan.

TABLE 1.1 : OUTLINE OF THESIS AND ITS POTENTIAL USE



1.3 Method and Content

1.3.1 Method In Thesis

General Method

Table 1.1 illustrates the flow of the thesis. The method to assess a built heritage area was constructed with hypotheses in Chapters 2 that were coordinated by a spatial hypothesis, the Model of Environmental Assessment, in Chapter 3. The method was then used to assess an area in Chapter 4. A successful quantitative test of the Model was made in a household survey in Chapter 6 which first required, in Chapter 5, a study of the economic effects of conservation and the development of an economic/environmental hypothesis that integrated some economic effects with the Model. Chapter 7 described the administrative legislation for environmental planning and heritage conservation, and ten administrative principles for the conservation of a built heritage area were constructed. Chapter 7 also illustrated how the economic effects in Chapter 5 can give effect to the economic criterion in Queensland heritage legislation.

Forming Hypotheses

The hypotheses are general propositions induced from important statements about the assessment, conservation and management of built heritage in the literature from the fields of architecture, economics, geography, administrative law, planning, psychology and tourism. Each hypothesis encapsulates the intention in two or more quotes about similar subject matter,

taking into account the context in which each quoted statement was made. The many quotes in the thesis were the necessary qualitative data for the development of the hypotheses.

This approach to the construction of hypotheses is similar to Lewins' (1993) "dominant trend" relationship between concept and qualitative evidence in the construction of explanatory theory, where "a student constructs a concept which is supported by qualitative evidence from most respondents".(p.44). The method is also like Faludi's (1973) idea of planning theory :

> The attempt to push categorization as far as possible and to find general propositions which can be applied to specific situations is what I refer to with the word 'theory'.(p.165).

A limitation in the methodology is the possibility of a bias, where evidence is sparse or inconsistent, towards a familiar vantage point from which to filter and comprehend the evidence and to construct concepts which conveniently fit with experience.

Assumptions

The research problem and the four research questions were guided by three assumptions. The first assumption was that there are cultural values, in addition to architectural values, that provide a reason for conserving a heritage area. This assumption does not downplay the importance of keeping old buildings as a heritage of building design. The second assumption is that environmental planning for heritage conservation can do more than replicate old architectural features in new buildings in order to provide an authentic heritage area. The third assumption is that heritage conservation can be an over-riding consideration in the physical development of economically active areas.

1.3.2 Content of Thesis

Chapter 2 has four sequential steps towards answering the first and second research questions. The first step was a search of authoritative literature and the construction of hypotheses regarding cultural values (ch.2.2) and principles and methods to assess built heritage (ch. 2.3). Then a search was made of conservation studies (ch. 2.4) and town plans (ch.2.5) from Queensland to find whether these cultural values, principle and methods were used in practice. A summary was then made of the hypotheses (ch. 2.6) and finally the hypotheses were synthesised (ch. 2.7) and found to be not sufficient to assess a built heritage area. The hypotheses lacked a method to assess areas for reasons other than architectural interest, they did not account for locational factors and there was no spatial framework of analysis.

Consequently, in Chapter 3 a search was made of literature from psychology, geography and architecture for concepts which explain how people interact with and comprehend their environment. The ideas were coordinated to form a Model Of Environmental Assessment which allows one purpose at a time to be considered in an assessment of an environment. The assumption that a person has only one purpose to assess an area could be a limitation in the Model for residents but not for visitors. The research in Chapters 2 and 3 completed the method to assess a built heritage area and answered the first and second research questions.

In Chapter 4, the Model of Environmental Assessment, supported by the hypotheses developed in Chapter 2, was used to make two assessments of the historic central commercial area in Charters Towers, one for the Purpose Value of a Tradition of

Excellence in Achievement and the second for the Purpose Value of an Aesthetic Ideal. The data used in the first assessment were the history of development of the area, historical photos and maps, the building form of old buildings and the original purpose of old buildings. The first assessment attributed a meaning and a heritage theme to the central commercial area of *excellence in cultural achievement in the building of an inland town based on gold mining in the last quarter of the nineteenth century*. The spatial arrangement of facilities within the area reflects historical interactions in three sectors of the area which persist and can be used as a guide for future planning. The second assessment found that the exteriors of buildings in the area did not represent an aesthetic ideal.

In Chapter 5, the third research question was researched to give an understanding of the scope of the economic effects that could flow from the conservation of an area as a consequence of a positive heritage assessment of the area. The economics literature was reviewed in order to structure the public and private, priced and unpriced, effects of the conservation of a built environment. The impacts from the conservation of a heritage area are wider and more complex than those from individual sites. The research took a second unexpected route when this literature provided the contingent valuation survey method as a way to measure the willingness of the public to pay for the nett beneficial effects of conservation. The realization came that the Model of Environmental Assessment could be an environmental framework to explain the amount that people were willing to pay in a contingent valuation survey. An hypothesis was developed which linked the economic hypotheses in the contingent valuation survey method with the environmental hypotheses in the Model

of Environmental Assessment. The hypothesis provided an opportunity to quantitatively test the Model in Chapter 6.

In Chapter 6 the household survey was carried out in Charters Towers in which the Model of Environmental Assessment was successfully tested. Both qualitative data and numeric data were obtained. The data comprised the names of historic buildings, a graded score of people's opinion of the historic area, a graded opinion score of the need for a hypothetical heritage authority to research and protect the area, and the dollar amount that each household was willing to pay for each of three alternative improvements in the protection of the historic area.

Chapters 5 and 6 identified two apparently untried uses for the Contingent Valuation Survey Method, namely in a survey of individual's willingness to pay for the conservation of a built heritage area and public testing of alternative objectives for conservation in an area.

Chapter 7, which answers Question 4, researched the administrative powers given to state and local government which determine whether they can make and administer a conservation plan for a heritage area. The data were found in heritage legislation, planning legislation and in statements of principles in journals and court reports.

Chapter 8 describes the use that can be made of the method of assessment and its component parts and some opportunities for further development.

2. VALUES, PRINCIPLES, AND METHODS

2.1 Introduction

2.1.1 Research Questions

This chapter searches literature for answers to the first two research questions :

(1) What are the cultural values that explain why, and which, old buildings should be conserved ?

(2) What principles and methods exist or can be developed to explain the concept of heritage in an area of old buildings and to differentiate the area from its surroundings ?

The search and analysis answers the first research question and provides some answers for the second research question.

2.1.2 Outline of Chapter 2

The research constructs general propositions to assess heritage areas and heritage places from key statements in heritage literature. Finding key statements, comparing them and making generalizations from their common intentions is a necessary but long and tedious part of the research.

In Chapter 2.2 there is a search of conservation literature for the cultural values. In Chapter 2.3 there is a similar search for the concepts, principles and methods used in heritage assessment and conservation. In Chapter 2.4 and Chapter 2.5 respectively, seventeen conservation reports and seven local government town plans in Queensland are reviewed to describe their purpose.

criteria, methodology and recommendations and to see whether they implement the values, concepts, principles and methods found in Chapters 2.2 and 2.3, or other formulas. Chapter 2.6 has a summary of the values, concepts, principles and methods for the assessment and conservation of heritage areas. Chapter 2.7 relates the values, concepts, principles and methods to each other and finds what remains to be done to develop a method to assess a heritage area.

2.2 Cultural Values of Purpose and Quality

2.2.1 Outline

The instigators or makers of heritage conservation policy are likely to be concerned with cultural values that explain "why" an area should be conserved, here termed the Purpose Values. The managers or administrators who implement the policy on behalf of the policy-makers are likely to be given a Purpose Value and to then implement the policy using Quality Values that indicate "what" to conserve for the given Purpose Value. The Purpose Values and Quality Values are two levels of analysis at the start of an assessment, the Purpose Value coming before the Quality Value.

The search in this Chapter 2.2 for Purpose Values and Quality Values was made in literature from the Australian Heritage Commission and linked organizations, conservationists, Queensland Heritage Act 1992, early Australian writers, archaeologists and conservators of cultural artifacts and property and practitioners in tourism and interpretation in heritage areas. Two early Australian writers are included because together they illustrate a change in attitude towards natural heritage that is still evolving today and is similar to the changing attitude towards built heritage. The result of the search is a list of examples of Purpose Values and Quality Values in Chapter 2.2.8 and Tables 2.1 and 2.2 which could be refined and expanded through the proposals for further research in Chapter 8.2.

2.2.2 Australian Heritage Commission

The principal heritage authority in Australia is the Australian Heritage Commission (AHC) which began in 1976 under the Australian Heritage Commission Act 1975, an outcome of the Hope Inquiry in 1973. The Commission is required to prepare a Register of the National Estate which comprises Australia's natural, aboriginal and historic environment that has been identified as worth keeping, and to advise the Commonwealth Government. Section 4 in the Act states that the National Estate consists of "those places --- that have aesthetic, historic, scientific or social significance or other special value". The Australian Heritage Commission (1993a) in its publication, Background Notes, explains the Act only binds the Commonwealth Government and that listing is not a land management decision. The publication stresses that :

> Assessments are made solely on the basis of national estate value. Nominations undergo detailed scrutiny against criteria of national estate significance.(p.3).

2.2.2.1 Criteria for Register of National Estate

The Commission's publication, Criteria for the National Estate, explains "The Act is not specific about thresholds for registration", "it does not establish criteria for the Register" of the National Estate, and the Register "contains no internal 'ranking' of relative value" (AHC, 1990,p.i). There are no guides in the Commission's literature to a threshold level of significance, but "the Commission will propose for registration only those places which reach a threshold level of significance" (AHC, 1990,p.ii). There seems to be no criterion to identify a

threshold.

The Commission (AHC, 1990, p.ii) gave an example of a rainforest where "relative significance depends on whether they (processes) have an evolutionary or biogeographic 'story to tell'". This example could extend to historic areas and the inference to be drawn from this example is that the significance of a heritage area is improved if there is a story to tell about the area.

The National Estate Criteria (AHC, 1990) are coded A to H with some internal numerical subdivisions within each code. The seven criteria other than Criterion G point not only to an evolution of cultural development but also to an underpinning desire to show cultural values which are here described as Aesthetic Ideals, Excellence In Achievement (of cultural development), Research and a Tradition Of Initiative (initiative in achievement, aesthetics and research). These four capitalized values are Purpose Values, purposes of conservation, which are consistent with what might be expected of a government program to promote community ideals, coupled with a policy goal to register a national estate that is fixed to land. The tradition of land use in Australia in the last two hundred years is one of its development for economic purposes, an idealized and integral part of culture and cultural advancement.

The Quality Values inferred from the AHC criteria A to H are Story To Tell (from A4, B2, C2 or H), Rarity (from B2), Associational Links (from A4, G or H), Aesthetic Quality (from E), High Achievement (from F) and Representativeness (from D2).

The Australian Heritage Commission's (1988) Background Notes had a list of criteria almost identical to that issued in 1990 except that it had Aesthetic Value and High Creative or Technical

Achievement linked together as one criterion. By 1990, they were recognized as different criteria.

The Australian Heritage Commission's (c.1989) Education Note 6 said the Sydney Opera House, a modern building, is a heritage building because it represents a "masterpiece of creative genius"(p.3). It asks the question "Why keep historic places ?" (p.4) and lists the following reasons for keeping them :

> * they provide evidence of the past in a tangible form ;
> * they make a contribution to the present day through their attractiveness as places, and in providing 'texture' in our environment ;
> * they satisfy the need for continuity and a sense of control and stability in our environment ; and
> * they are part of our inheritance and there is an obligation on our generation to conserve historic places for future generations.

The first and third reasons above appear to be a desire to have old buildings as a reminder of the ways of life that used to be, and as a brake on proposals for new development. The second reason indicates the purpose of heritage conservation is enjoyment. The fourth reason is not a reason for conservation but rather a moral argument that only has validity after the reason for conservation is known. The Purpose Values deduced from these four reasons are Aesthetic Enjoyment and Reminders of Traditions.

2.2.2.2 Burra Charter

The Australian Heritage Commission provides grants for conservation work which must be carried out in accordance with the Charter for the Conservation of Places of Cultural Significance (Burra Charter). The Charter was adopted in 1979 at Burra in South Australia by the Australian Committee of the International Council on Monuments and Sites (ICOMOS) and it is printed in Kerr (1990, p.25-36).

Before 1979, the guiding principles for conservation were in the Venice Charter of ICOMOS (Walker, 1978b, p.39 ; Marquis-Kyle, 1992, p.21). The principles :

were designed primarily to apply to buildings and sites, however the same principles can be applied to larger areas (Walker, 1978b, p.39)

The Burra Charter with its amending guidelines in Kerr (1990) has principles for the conservation of heritage places, but nothing specifically for the assessment or conservation of heritage areas. Walker (1983) later acknowledged "Whilst the Burra Charter and the Analyses section of the Guidelines are able to be used for towns and areas, there has been little attempt to do so" and that her "view is not commonly held". Walker (1983) maintained her stance that the Burra Charter could be used in relation to areas and urged that the ICOMOS draft Charter for the Conservation of Urban Areas, adopted in early 1983, be abandoned. The Charter must have been dropped because the Burra Charter and its guidelines in Kerr (1990) refer to places and not to areas and there is no mention of a charter for the conservation of urban areas.

A principle in the Burra Charter states :

> The places that are likely to be of significance are those which help an understanding of the past or enrich the present, and which will be of value to future generations. (Kerr, 1990, p.29).

The dual aims of understanding the past and enriching the present are similar to the National Estate Criteria A4, B2 and D2 which select places that describe the initial development, rare examples and classes of development that occurred in the past. Criteria C2, E and F select places that illustrate the goal of excellence in research, aesthetic ideals and achievement. Examples of excellence can be said to enrich the present. The Purpose Values derived from the Burra Charter are therefore the same as those found from the National Estate Criteria which are Tradition Of Initiative, Aesthetic Ideals, Research and Excellence In Achievement.

Another Burra Charter guideline describes the range of information (Kerr, 1990, p.30) that should be obtained about a place to assess its cultural significance. The information includes the development sequence, the function, relationship to its environment, cultural influences, significance to past and present users, historical forces affecting the place and relationships to other places.

The range and content of the information indicates that the purpose of assessment is to explain how the place functioned in the past to service a culture. The use to which this information can be put is not explained. Two possible uses are to satisfy curiosity about past ways of life (for the purpose of entertainment), and to compare past ways of life with the present in order to understand history or to promote some point of view to enhance or alter the present way of life.

If the intention is to use the place as an example to the present community then some cultural belief, custom or value is being transmitted and this constitutes a tradition. The two Purpose Values deduced from the range of information needed in the assessment process are therefore Entertainment and Promotion of Tradition. The information is the foundation for a story about the place. The relevance of a "story to tell", as a positive factor in heritage significance, was discussed in Chapter 2.2.2.1.

The Quality Values deduced from Kerr's (1990) guideline to information are Story To Tell, Rarity, Technical Interest, Research and Associational Links.

2.2.2.3 World Heritage Commission (WHC) Criteria

The Australian Government makes arrangements with the World Heritage Commission for places to be entered in the World

Heritage List if they have outstanding universal value. In the Australian Heritage Commission (1993b) publication World Heritage, member countries to the World Heritage Convention agreed to :

> 'adopt a general policy which aims to give the cultural and natural heritage a function in the life of the community and to integrate the protection of that heritage into comprehensive planning programs'.(p.1).

A cultural property listed as world heritage must meet one or more criteria which are paraphrased below :

> (i) represent a unique artistic achievement, of the creative genius
> (ii) have exerted great influence - in architecture, monumental arts, town planning, or landscape design
> (ii) - - - exceptional testimony to a civilization or cultural tradition which has disappeared
> (iv) be an outstanding example of a type of building or architectural ensemble or landscape which illustrates stage(s) in human history
> (v) - - - traditional human settlement or land use which is representative of a culture -
> (vi) - - - associated with events or living traditions, with ideas, or with beliefs, with artistic and literary works of outstanding universal significance -
> (vii) meet the test of authenticity in design, material, workmanship or setting and in the case of cultural landscapes their distinctive character and components -
> (viii) have adequate legal and/or traditional protection and management.(p.9).

There is one Quality Value underlying the first six criteria and that is Outstanding Human Achievement. The seventh criterion means that everything about the property must be true evidence but not necessarily complete. Criteria (iv), (v), and (vi) could be described as requiring a place to be a representation of a class of buildings, settlements or ideas. The three Quality Values are therefore Outstanding Human Achievement, Authenticity and Representativeness.

2.2.2.4 Summary Of Values

A summary follows of the Purpose Values of conservation and the Quality Values in assessments that have been deduced from the

literature from the Australian Heritage Commission and linked sources :

AHC National Estate Criteria :

There are four Purpose Values and these are a Tradition of Initiative, Aesthetic Ideals, Research and Excellence in Achievement.

The Quality Values in assessments are Aesthetic Quality, Associational Links, Story To Tell, High Achievement, Rarity and Representativeness.

AHC Education Note 6 :

The Purpose Values are Aesthetic Enjoyment and Reminders of Tradition.

Burra Charter :

The Purpose Values are Entertainment and Promotion of Tradition and those deduced from the National Estate Criteria which are Aesthetic Ideals, Excellence In Achievement, Research and Tradition Of Initiative.

The Quality Values are Associational Links. Rarity, Research, Story To Tell and Technical Interest.

World Heritage Commission :

The Quality Values are Authenticity, Outstanding Human Achievement and Representativeness.

2.2.3 Conservation Practitioners

A search was made in literature by Kerr (1990) and participants at a seminar by Australia ICOMOS in Brisbane in 1990 for the explicit and implicit cultural values they applied in their work.

Purpose Values

The comments from conservationists indicate two Purpose Values which are Conserving a Tradition of Community Values and Maintaining a Tradition of Community Goals.

Quality Values

The Quality Values to indicate what is worth keeping are Aesthetic Quality, Associational Links, Authenticity and Representativeness. These Purpose Values and Quality Values are similar to those found in the literature from the Australian Heritage Commission and the Burra Charter.

2.2.4 Queensland Heritage Legislation

The cultural heritage significance of a place or object in the Queensland Heritage Act 1992 (s.4) "means its aesthetic, historic, scientific, or social significance, or other special value, to the present community and future generations"(p.3). This definition uses the same words, with a little rearrangement, as are used to delineate the national estate in the Australian Heritage Commission Act 1975 (s.4). The Queensland Heritage Act 1992 (s.23) has 8 criteria which were described as similar to the criteria used by the Australian Heritage Commission (University of Queensland (1992,p.3/23) : Queensland Department of Housing and Local Government (1991,p.42)). The Purpose Values and Quality Values found in the literature from the Australian Heritage Commission are therefore relevant in Queensland to the assessment of heritage places and their conservation.

2.2.5 Early Australian Heritage Ideas

Two early writers, Morton (1884-86/1978) and Barrett (1918) had ideas of heritage and protection of the country.

Morton saw a natural inheritance everywhere around him when he arrived in Australia in 1842 and later only proposed the conservation of water. By the time of Barrett's (1918) observations, the city reform movement had begun in England and spread to Australia. Barrett supported the proposals for town planning and protection of natural features in national parks because they were needed for the education of people as a mark of civilization. The proposals for town planning included the preservation of natural features and objects of historic or scientific interest, terms that are now in the Australian Heritage Commission Act 1975.

The values that Morton (1884-86/1978) and Barrett (1918) had in mind about the natural landscape were :

(1) the size and magnificence of forests and catchments, (Morton, and Barrett)

(2) diversity of natural systems including wildlife (Morton, and Barrett)

(3) the history, size and composition of geological formations and their part in making the landscape (Morton)

The Quality Values are Diversity, Size/Magnificence and Story. Their writings indicate how the parts of the landscape, the untouched forests, streams and new animals were for them a unified understandable whole.

The Purpose Value in the protection of natural systems and places of historic and scientific interest is the Education Of Society as a mark of civilization.

2.2.6 Archaeology and Cultural Artifacts

The work of archaeologists, the conservation aims of U.N.E.S.C.O. and a method of classification are discussed for the cultural values that are imputed in cultural artifacts.

The archaeologist's primary interest in a site is, according to Bowdler (1984,p.4), for personal research and if in that research the physical evidence is degraded, the site then takes on historical significance. The Quality Value is Research Potential.

Bickford (1981) suggested that historic sites can be used as representatives of an historic theme (pp.1,2) as they were used by preservation authorities in the United States and Canada. She said archaeologists should provide an interpretation of what life was like at historic sites, in three objectives:

> First, because historical significance changes and we change our interpretations of the past, we must retain as much of the original fabric of a building or site as possible.
> Second - proposals should explain and detail the historical significance of the site; the reasons why these factors have been chosen; what they are to explain about the past of the site, and how it is to be interpreted, room by room
> third - become involved in the process of assessment of historical significance by putting our view that buildings and sites are historic documents to be used to explain the past to the present and not only the creation of architects and builders, romantic ruins, or the houses of great men.(p.6).

Bickford's (1981) working objectives reflect the Quality Values of Authenticity Of Materials and Representative of Historic Theme. Sullivan (1985) also discussed the opportunities for archaeologists and, in support of Bowdler, she proposed:

> a mature, integrated study which connects the past with the present, and helps to explain it, uses ethnography creatively for this purpose.(p.155).

which implies the manipulation of information about past ethnic cultures for a purpose of Education In Tradition.

Sheets-Pyenson (1988) described the development of colonial

natural history museums from the collections of "the more privileged classes" during "the great voyages of exploration in the sixteenth and seventeenth centuries"(p.3) to the natural history museums and educational institutions in the 19th century :

> The public exhibits, by contrast, were designed to give the layman a general understanding of the kingdom of nature. The function of guide books was to increase the educational value of the materials.(p.7).

This educational role for museums parallels the educational role for national parks suggested by Barrett (1918,Vol.2,p.118). The education value is also taken up in the U.N.E.S.C.O. (1975) handbook, The Conservation of Cultural Property :

> the loss of so much of the past means that present and future generations will remain ignorant of many of the elements which make up the whole body of their traditions (Daifuku, 1975,p.20)
> What should be preserved ? Ideally, the answer would seem to be at least one example of each type of object.- The choice is difficult and demands both an appreciation of one's own cultural traditions and an understanding of others. (Daifuku, 1975,p.21).
> - the main characteristic of a professional restorer is his integrity, that is, his honesty of purpose in aiming to conserve all that is authentic without introducing materials or using processes that might in future lead to confusion with the genuine work of art or antiquity (Plenderleith, 1975,pp.124-125)

The U.N.E.S.C.O handbook points to the importance of the Purpose Values of Education In Tradition and to the two Quality Values of Representative Of Type and Authenticity Of Material when deciding whether to conserve an historic place.

In contrast, authenticity in art depends not on material but on the reputation of the artist, according to Goudsmit (1975) in the foreword to Fleming (1975) :

> It is not true that the value of a painting depends upon its artistic quality or upon the skill of the master who painted it. Today the value is primarily determined by its authenticity and not by its aesthetic merits.

This dictum is substantiated when a large amount of money is spent to conserve a minor building that once belonged to a famous person.

Records & Classification of Cultural Artifacts

Chenhall (1978) said :

> At the top or highest level in any hierarchy of classifying and naming man-made artifacts there can be no consistent organizing principle other than the known (or presumed) reason why each object was originally created.(p.8).

This claim is consistent with Bickford's (1981, p.3) view. When the principle is applied to an assessed heritage area, the Purpose Value, cultural reason, is one level of classification above the original reason that the area was created as a physical entity.

Chenhall (1978) has a lexicon to classify historic objects :

(1) registration or accession number

(2) functional classification (p.9), major category (p.21), classification term.(p.39,42).

(3) object name.(p.9,15,54).

(4) style or type name.(p.22).

(5) a subject that is represented

(6) an artist or artisan name

(7) maker or manufacturer

(8) materials of construction.(p.22).

(9) technique of construction.(p.22).

(10) place of origin

(11) date of origin.

The above arrangement to name and record heritage items is here referred to as Chenhall's (1978) Lexicon. The Quality Value implied in the lexicon is Authenticity In Original Purpose.

Summary

The Purpose Value is Education in Traditions.

The Quality Values are Authenticity of Materials, Authenticity In Original Purpose, Representative Of Historic Theme, Representative of Type, and Research Potential.

2.2.7 Tourism and Interpretation of Heritage Places

Black (1989, p. 284) constructed "a three dimensional diagrammatic model to predict the public's preference for a heritage building" in which the dimensions are clarity of purpose, special features and size. Black (1989) decided that :

> Features placed on the external facade of a heritage building may detract from that building but do not degrade the ratings, the perceived value of the building. (p. 341).

because,

> It would appear that buildings contain a set of cues of heritage not easily overwhelmed by external changes. (p. 343).

The three Quality Values are Clarity Of Purpose, Special Features and Size.

Tilden (1978) gave the reason that people visit heritage places. He said "the visitor's chief interest is in something that concerns himself" which is based around "the urge of men to associate themselves with the historic past"(p. 12) and he explained this urge in a quote : "'And thus he becomes although of humble status a great man, a member of a great group'"(p. 12). To complete his argument, Tilden (1978) claims :

> Generally speaking, certainties contribute towards human happiness ; uncertainties are a source of spiritual loneliness and disquietude. Whether or not he is conscious of it, Man seeks to find his place in nature and among men - not excluding remote men. Primitive parks, the unspoiled seashore, archaeological ruins, battlefields, zoological and botanic gardens, historic preservations - all happen to be exactly those places where this ambition is most likely to be satisfied. (p. 13).

According to Tilden (1978), the visitor's interest is "in the great human story : Why did men act as they did?"(p. 24). Tilden (1978, p. xi) believed that "national parks are set aside not solely to preserve scenic landscapes and historic places", but because "Americans seek to find in the parks leisure time alternatives to their everyday world" and "visitors over the years have needed

help to translate that which is perceived into that which relates personally"(p.xi). He stated that the interpretation of national parks is "the effort to make real and vivid to our people our common heritage in history and science and nature"(p.xviii).

Tilden (1978) stresses "we cannot forget that people are with us mainly seeking enjoyment, not instruction"(p.29), and that "Research is a continuing need and life blood of good preservations. Both historical authenticity and proper interpretation demand facts"(p.5). The Purpose Value of conservation, from Tilden's remarks, is to provide Enjoyment. The Quality Values are Clarity Of Purpose (certainty linked to enjoyment), the Great Human Story and Authenticity In History.

Moscardo and Pearce (1986) proposed three criteria for authenticity in tourist settings :

> that the historical setting is likely to be presented as authentic ; that it must be seen as authentic by those who are motivated to to visit such settings ; and that it should offer visitors a chance to appreciate some aspects of a past society or culture.(p.477).

At a conference of the Travel and Tourism Research Association in New Orleans, Peterson (1990) said research directed towards tourists at historic sites found that visits were most successful when there was entertainment associated with intellectual stimulation, an educational side benefit, and an opportunity to promote tradition :

> This joy in visiting historic sites does not depend on a particular famous person or event. Rather it depends on the ability to sense and feel a different place and time.
> Many enjoy making 'connections' between our time and an earlier time.(p.210).

Foskey (1990) described his research findings for visitors' expectations and satisfaction at historic Williamsburg, Virginia, which indicated that visitors appreciated the authenticity, even

though the structures were restorations of buildings. and the "buildings, objects, and scenes caused people to fantasize about life in the 18th century"(p.125). Peterson (1990) argued that :

> Parents are even more anxious today than they have been in the past to show their children their heritage, their roots, the history which is relevant to them.
> A visit will be successful if the guest has developed a good understanding of the people who lived, worked or played in the historic resource in other times.(p.210).
> When the people with whom the site is associated are famous, the artifacts take on more significance from the person than from the artifact itself.(p.212).

These comments are similar to those discussed in Chapter 1.2 for ethnic history and authenticity in heritage tourism. Authenticity in heritage sites for visitation is not apparently of the same technical standard that is required by archaeologists and art assessors such as Goudsmit (1975 in Fleming,1975).

Summary

The Purpose Values are Education In Tradition, Enjoyment, Entertainment, Reminder of Current Social Attitudes and Reminder Of Tradition.

The Quality Values are Authenticity In History, Clarity of Purpose. Size. Special Features. and Great Human Story.

2.2.8 Conclusions

The Purpose Values and Quality Values that were deduced from the conservation literature in this Chapter 2.2 are listed below.

Purpose Values

Fourteen Purpose Values have been identified as Aesthetic Enjoyment, Aesthetic Ideals, Conserving a Tradition of Community Values, Education in Traditions, Education Of Society, Enjoyment, Entertainment, Excellence in Achievement, Maintaining a Tradition of Community Goals, Promotion of Tradition, Reminder of Current Social Attitudes, Reminder of Tradition, Research, Tradition of Initiative.

In Table 2.1 these values are shown in column one under four group headings, based on similarity of purpose. The four group headings are Aesthetic, Enjoyment, Research and Tradition. It may be possible to regroup the values into a smaller number of groups, but this can only be a possibility until there is empirical evidence of the purposes of heritage conservation.

Enjoyment and Entertainment may be associated with Aesthetic Enjoyment, but they may also be associated with joy and pleasure from the expression of traditional values. Some people may enjoy a heritage area simply because it is a novel experience. A group for Enjoyment is retained because enjoyment may be the best possible explanation for conserving a heritage area in some circumstances, particularly where conservation is meant to encourage visitors.

Excellence in Achievement is included in the Tradition Group because the aim is to pass on the ideal of achievement to the present and future generations.

TABLE 2.1 : PURPOSE VALUES in FOUR GROUPS

PURPOSE VALUE	Thesis Chapter	No.	%
AESTHETIC GROUP		3	13
Aesthetic Enjoyment	2.2.2.1	1	
Aesthetic Ideals	2.2.2.1, 2.2.2.2	2	
ENJOYMENT GROUP		3	13
Enjoyment	2.2.7	1	
Entertainment	2.2.2.2, 2.2.7	2	
RESEARCH GROUP		2	9
Research	2.2.2.1, 2.2.2.2	2	
TRADITION GROUP		14	64
Conserving a Tradition of Community Values	2.2.3	2	
Education in Traditions	2.2.6, 2.2.7	2	
Education of Society	2.2.5	1	
Excellence in Achievement	2.2.2.1, 2.2.2.2	2	
Maintaining a Tradition of Community Goals	2.2.3	1	
Promotion of Tradition	2.2.2.2	1	
Reminder of Current Social Attitudes	2.2.7	1	
Reminder of Tradition	2.2.2.1, 2.2.7	2	
Tradition of Initiative	2.2.2.1, 2.2.2.2	2	
TOTAL		22	99

Education of Society is included in the Tradition Group because the aim is to pass on certain (unidentified) beliefs associated with the old buildings to the present and future generations.

Column two shows where the Purpose Value was identified in the thesis. Column three shows the number of times each value occurred in the literature and the number of values in each group. Column four shows the percentage of all values that occur in each group. The most frequent purpose of heritage conservation, as judged from frequency in the literature, was to pass on traditional values. The Purpose Values indicate that :

the main purpose in the conservation of old buildings is to keep those buildings as reminders of the values that are a tradition of the culture that is seeking the conservation.

There is scope, but not in this thesis, for survey work to clarify the tradition values. Australia is a multi-cultural society and it is reasonable to expect that the conservation of a particular set of old buildings that is relevant to the values of one culture may not be relevant to the values of another culture.

Quality Values

The Quality Values are in Table 2.2 under the seven group headings of Achievement, Aesthetic, Associational Links, Authenticity, Rarity, Representativeness and Story. Twenty three Quality Values were identified. Where a value was found more than once in the literature, the number of occurrences is shown in brackets. The Quality Values, are Aesthetic Quality (2), Associational Links (3), Authenticity (2), Authenticity In

History, Authenticity In Original Purpose, Authenticity of Materials, Clarity of Purpose, Diversity, Great Human Story, High Achievement, Outstanding Human Achievement, Rarity (3), Representativeness (3), Representative Of Historic Theme, Representative of Type, Research, Research Potential, Size, Size/Magnificence, Special Features, Story (2), Story To Tell (2) and Technical Interest.

The Quality Value of Associational Links is not included in the Achievement group because Kerr (1990) uses Associational Links as a criterion for the assessment of places where there never was, or no longer is, any physical evidence of associations with achievement. The Australian Heritage Commission's National Estate Criteria do not limit the value of association to places that have no physical evidence as Kerr (1990) does. Research, Research Potential and Technical Interest are linked to Story because they are meant to explain how people lived in the past. Clarity of Purpose is linked to Authenticity because the original purpose is the one thing about a structure that is unchangeable and it is an important point in satisfaction with old buildings. The three most important groups of Quality Values, as judged from their frequency in the literature, are Story, Aesthetic and Authenticity.

TABLE 2.2 : QUALITY VALUES in SEVEN GROUPS

QUALITY VALUE	Thesis Chapter	No.	%
ACHIEVEMENT GROUP		2	6
High Achievement	2.2.2.1	1	
Outstanding Human Achievement	2.2.2.3	1	
AESTHETIC GROUP		6	18
Aesthetic Quality	2.2.2.1, 2.2.3	2	
Diversity	2.2.5	1	
Size	2.2.7	1	
Size/Magnificence	2.2.5	1	
Special Features	2.2.7	1	
ASSOCIATIONAL GROUP		3	9
Associational Links	2.2.2.1, 2.2.2.2, 2.2.3	3	
AUTHENTICITY GROUP		6	18
Authenticity	2.2.2.3, 2.2.3	2	
Authenticity in History	2.2.7	1	
Authenticity in Original Purpose	2.2.6	1	
Authenticity of Materials	2.2.6	1	
Clarity of Purpose	2.2.7	1	
REPRESENTATIVENESS GROUP		5	15
Representativeness	2.2.2.1, 2.2.2.3, 2.2.3	3	
Representative of Historic Theme	2.2.6	1	
Representative of Type	2.2.6	1	
STORY GROUP		8	24
Story To Tell	2.2.2.1, 2.2.2.2	2	
Great Human Story	2.2.?	1	
Research	2.2.2.2	1	
Research Potential	2.2.6	1	
Story	2.2.5	2	
Technical Interest	2.2.2.2	1	
RARITY		3	9
Rarity	2.2.2.1, 2.2.2.2, 2.2.3	3	
TOTAL		33	99

Implementation of Values

The Purpose Values and the Quality Values are not sufficient to assess a heritage area and define its boundaries. Two examples illustrate the point. First, the Purpose Values and the Quality Values in the Aesthetic Groups are intuitively linked because they are derived from discussion about the attractiveness of the appearance of places or areas, but how are Diversity, Size and Special Features related to Aesthetic Enjoyment ? Second, the Purpose Values related to tourism and interpretation (Ch.2.2.7) are largely about enjoyment and tradition through a story, but is it enough to be able to point to certain old buildings while the story unfolds, or are there spatial relationships that must exist in order to provide enjoyment and reminders of tradition ? If a heritage area is to 'represent the interaction of natural and human forces' (Ch.1.2) what will be the unifying factor that explains the spatial interactions to the visitors ? A way to look at spatial links in a heritage area is needed.

The following Chapter 2.3 searched in conservation literature for concepts, principles and methods to use in assessment and conservation, for a structure for spatial considerations and for the use of any Purpose Values or Quality Values already identified in this Chapter 2.2. Chapters 2.4 and 2.5 made a similar search of conservation reports and town planning schemes in Queensland.

2.3 Principles & Methods

2.3.1 Introduction

Chapter 2.3 is a search of conservation literature to find the concepts, principles and methods to assess a heritage area and to find whether the literature implies the Purpose Values and Quality Values in Tables 2.1 and 2.2. The literature search was directed towards heritage areas but it included points relating to sites.

The first and the major part of the literature search was in promotional literature from the Australian Heritage Commission (ch.2.3.2), the Illustrated Burra Charter, Australian conservation publications and planning journals (ch.2.3.3), the United States Department of Housing and Urban Development (ch.2.3.4), research studies (ch.2.3.5) and the planning and heritage authorities in New South Wales (ch.2.3.6). The search was continued in conservation studies from Victoria in Chapter 2.3.7.

In Chapter 2.4, a review was made of all the assessment studies in Queensland that are listed in the Australian Heritage Commission (1991) Bibliography. A review was then made, in Chapter 2.5, of those town plans that later aimed to conserve the built heritage in some of the assessment studies.

2.3.2 Australian Heritage Commission

Heritage Significance

The Commission considers (AHC, undated pre-1989, p.4) one or more of the National Estate Criteria A-H (ch.2.2.2.1) is necessary but not sufficient to establish the significance of a place, and that significance is conferred by the degree to which the place exhibits characteristics which are rare, early in time, influential within its type, endangered, particularly fine in exemplifying its type, particularly valuable for research, or which mark major stages or the climactic point for its type.

These characteristics, which determine the degree of significance, define a class of characteristics which are described here as Characteristics of Distinctiveness. They complement the Quality Value of Story To Tell which was found (ch.2.2.2.1) to be a measure of relative significance.

A definition of Heritage Significance for the purpose of the Register of the National Estate is deduced :

> *For the purpose of the Australian Heritage Commission's National Estate, a place has heritage significance if it meets one or more of the National Estate Criteria A to H and has a Characteristic of Distinctiveness.*

A method to assess the significance of a place that uses the National Estate Criteria is in Table 2.3.

TABLE 2.3 : METHOD OF NATIONAL ESTATE
To Assess a Place

STEP 1 : Data

Assemble data : the context, history, associations, authenticity, condition, etc.

↓

STEP 2 : National Estate Criteria

Is the place important for, and evidence of, :
A4. cultural history
B2. a rare aspect of history
C2. an understanding of history
D2. example of a class of places or environments
E. aesthetic values for a cultural group
F. creative or technical achievement in history
G. a social, cultural, or spiritual group reasons.
H. a person or group of importance in history.

↓

STEP 3 : Expression Of Cultural Values

State the way in which the purpose of conservation and the Quality Values in conservation are expressed or manifested at the site.

↓

STEP 4 : Characteristic of Distinctiveness

Assess the degree to which the place exhibits characteristics which are
(1) rare
(2) early in time
(3) influential within its type
(4) endangered
(5) particularly fine in exemplifying its type
(6) particularly valuable for research
(7) major stages or the climactic point for its type

↓

STEP 5 : Significance Statement

Summary of evidence, distinctiveness, and cultural values that are satisfied by the place (from Steps 2, 3, & 4)

This method does not have an explicit consideration of spatial links. The literature from the Australian Heritage Commission has a focus on places rather than areas.

Table 2.3 may clarify the overall assessment picture, but it may also oversimplify the assessment process. For example, an assessor may try to quantify a score on each criterion and make an assessment judgment based on a quantified threshold total score on all the criteria. This may be a reasonable approach to assessments from a broad national level, but there will need to be careful research to decide the weight that should be given to each criterion.

The method in Table 2.3 implements the Purpose Values and Quality Values that were deduced from the National Estate Criteria in Chapter 2.2.2.1 and summarized in Chapter 2.2.2.4.

2.3.3 Australian Conservation and Planning Publications

The publications reviewed here for principles and methods to assess an area are the Illustrated Burra Charter, written by Marquis-Kyle and Walker (1992), the record of a National Trust seminar and two Australian planning journals.

Marquis-Kyle and Walker (1992) maintained the stance by Walker (1978b and 1983) that the principles in the Venice Charter and the subsequent Burra Charter were sufficient to assess an area of old buildings but they did not say how the principles, which are specifically meant to be applied to a place, can be adapted to assess an area. Their description of character refers to a visual perception of similarity in buildings and not the history of the area. From their literature, the Principle of Historic Precinct and the Principle of Evidence were developed.

Most writers concentrated on architectural matters and favoured controls on new development in the form of "new architectural features similar to the old architectural features", which implemented the Quality Value of Aesthetic Quality.

The Method of Line Procession was compiled from Dovey (1988). The idea is similar to Kerr's (1984) opinion that there can be extreme contrasts in scale provided the other unities are observed and it is similar to James' (1984) wish that new architecture be allowed in heritage areas.

The concept of "character" is further developed in Chapter 2.3.4 and completed in Chapter 2.3.5.1.

2.3.4 United States Department of Housing and Urban Development

The aim of making new buildings similar to the old, discussed in the preceding Chapter 2.3.3, is encompassed by a prescriptive rule that was used by the United States Department of Housing and Urban Development (1973) in a preservation plan for Savannah, Georgia U.S.A. This plan specified 16 architectural characteristics of relatedness between buildings in the historic area.

These 16 characteristics of buildings are : (1) height, (2) ratio of facade width to height, (3) ratio of window width to height, (4) ratio of facade solids to voids, (5) ratio of street solids to voids, (6) ratio of facade entrance to non-entrance, (7) predominant material, (8) predominant texture, (9) predominant colour, (10) predominant architectural details, (11) predominant roof shape, (12) enclosures, (13) landscaping (14) ground cover, (15) scale and (16) axial direction.

New development must have at least 6 of these 16 characteristics of relatedness to assure the maintenance and preservation of the architectural and historic character of the area and to ensure that new construction will blend reasonably well with the present character of the area. No single characteristic was mandatory.

The term "relatedness" is understood to mean the characteristics are repeated in buildings throughout the historic area, and that buildings are considered to be "related" to each

other because they have similar characteristics. An analogy might be a consanguine family in which members have similar characteristics.

The persuasion that the elements of old buildings should be reintroduced in new buildings (new similar to old) and old buildings should not be dominated (ch.2.3.3.1, 2.3.3.3) is here termed the Principle Of Relatedness, which is expressed as :

In order to preserve the architectural elements found in the old buildings and to ensure that new construction will blend reasonably well with the existing buildings, a new building in an historic area should relate to existing historic buildings by,

(1) incorporating visual characteristics similar to the common characteristics in existing historic buildings,

(2) by not dominating historic buildings, for example in relation to height and setback.

The visual characteristics include those numbered (1) to (16) above from the Savannah study. This principle implements the Purpose Value of Aesthetic Ideal and the Quality Values of Aesthetic Quality and Representativeness in Table 2.2. The Principle of Relatedness embraces the planners' idea of a combined architectural and historical visual amenity that was first noted in Chapter 1.2.3. The term "character" is discussed next in Chapter 2.3.5.

2.3.5 Research - Meaning of "Character" in Assessment

There was a consistent claim from the literature in Chapters 2.3.2, 2.3.3 and 2.3.4 that the "character" of an area was something that was worth keeping, yet there was no clear exposition of what "character" meant. In order to further clarify the meaning of "character" and to decide whether it is a useful concept in the assessment of an area, research literature by Bourassa (1991), Day (1992) and Black (1989) was reviewed in the discussion below. The review also produced two unexpected principles to use in the conservation of an area.

2.3.5.1 Character

Bourassa (1991) quoted from work by Schauman and Pfender (1982, pp.10-11) who said "character", one of eight indicators of scenic quality, is :

> A range of landscape conditions from a visually congruent assembly of landscape elements to an incongruent assembly of landscape elements as judged by the visual criteria of form, colour, texture and scale/proportion. (Bourassa, 1991, p.128).

The term congruent means agreeing or harmonious (Barnhart *et al*. (1969, p.445). In the thesis the term "unity" means the elements in the environment are compatible and complement each other to form a whole that is understood (see Glossary). Congruity and unity are not synonymous terms but congruity seems to be a necessary condition for unity.

The definition above of "landscape character" uses similar visual characteristics (form, scale, etc.) to that used by Marquis-Kyle and Walker (1992) and Kerr (1984) (chs.2.3.3.1, 2.3.3.2). The requirement in the definition above is for a description of congruity or incongruity in the assembly of

elements. It is hard to imagine how an assembly of landscape elements (for example landforms, streams and vegetation as one assembly) can be congruent on any pre-determined and exogenous visual criterion such as form or scale. If the test of congruity is similarity within the assembly of elements all of the same type (for example all hills or all streams) then the definition of landscape character above is no different in principle to that by Marquis-Kyle and Walker (1992) or by Kerr (1984).

Bourassa (1991) found a problem with "the technical criterion Character" :

> judgments regarding congruency or incongruency depend upon cultural significances and values and not just superficial formal qualities. Thus the reference to 'form, color, texture, and scale/proportion' is inadequate. This is not to say that Character would be an inappropriate criterion if redefined, since it seems to be closely related to the concept of good fit.(pp.129-130).

Cultural significance and values are respectively synonymous with a method of assessment and the Purpose Values and Quality Values in Tables 2.1 and 2.2. A test of the 'fit' in Bourassa's comment will depend on the purpose of the 'fitting' (a Purpose Value) and a theoretical framework or criterion. These problems do not arise if the concept of 'character' is considered as a matter of fact and not a criterion to assess an area.

The ideas about 'character' above, and earlier in Chapters 2.3.2 to 2.3.4, are resolved and generalized in the following concept which is not limited by the three given examples :

Area Architectural Character of a group of buildings is a statement of fact that identifies those architectural characteristics of the group that are congruent and those characteristics that are incongruent as judged by architectural design criteria such as scale, form and materials and similar criteria.

The concept of Area Architectural Character implements the Purpose Value of Aesthetic Ideal and the Quality Value of Aesthetic Quality.

2.3.5.2 Design Principles

Two design Principles of Authenticity and Contrast are developed at the end of this Chapter 2.3.5.2 to avoid a confusion of old and new buildings in an historic area and to keep old buildings prominent. Day (1992) studied peoples' responses to a large new building in an historic area and found that :

> a building having an inviting public nature is more important than explicit links to the past.(p.326)
> People liked the glass atrium at Galtier even though they do not think it fits in with its surroundings.(p.343).
> People liked all three of the Galtier elevations included in the study and they liked them because they linked the building to and made its defining surfaces a part of the public domain.(p.344).

Day (1992) referred to a design strategy to integrate a large new building with an old area. The strategy is to incorporate within the public area of the building a feature that is similar in appearance to surrounding historic buildings (a mnemonic), but different to other parts of the new building so that the feature is noticeable (p.344). This strategy is an application of Rapoport's (1982,p.30) finding that small features can indicate an association between a building and a cultural background through memory association. The strategy links the new buildings to a cultural background and appears to utilize the Purpose Value of Reminder Of Tradition in Table 2.1. and the Quality Value of Representativeness Of Type in Table 2.2.

In Day's (1992) study a part of the new building had architectural characteristics similar to a nearby old building and an unexpected assessment occurred when some people thought the

old building was new (p.341). They associated the common characteristic with the new building, not the old building as the designer had intended. This finding indicates a planned association of architectural features can have the reverse of the intended effect and can lead the public to an erroneous conclusion. To avoid this confusion, the following design principles by Simonds (1983) are helpful :

> It is known that the form, color or texture of a handsome object can be emphasized through contrast.(p.20).
> We may recall in color theory that to produce an area of greenest green a fleck of scarlet is brought into juxtaposition.
> It follows that before introducing contrasting elements into a landscape it would be well to understand the nature of the features to be accentuated. The contrasting elements will then be contrived to strengthen and enrich the visual impact of these natural features. Conversely, to emphasise certain qualities of the structure or component introduced, one will search the landscape and bring into contrasting relationship those features that will effect the desired contrast. A further principle in the use of contrast, - - - is that of two contrasting elements one must dominate. One is the feature, the other, the supporting and contributing backdrop. Otherwise, with two contrasting elements of equal power, visual tensions are generated that weaken or destroy, rather than heighten, the pleasurable impact of the viewing experience.(p.21).

Simonds (1983) noted an axiom :

> Lack of effective enclosure is the key to most unsatisfactory spaces or places. We cannot stress too strongly the need for the proper type and degree of vertical definition.(p.165).

and in the design of structures in a landscape :

> Buildings of a similar character may be dispersed, even at great distances, in such a manner as to dominate a landscape and to unify it. Though a great variety of uses may be given to the intervening landscape area, each element within the visual field must be compatible by association.(p.248).

An example of contrast is at the Nikko Hotel in central Sydney where a modern large tall building is physically connected to the rear of a street frontage of old maritime buildings. The two buildings are very dissimilar in their scale, form and materials but they are compatible because they are clearly seen as

separate buildings from the street even though there is an internal connection between the two buildings.

To help avoid the misunderstanding raised by Day (1992) and to create a contrast between the old and the new so that the old is prominent, the following two principles of Contrast and Authenticity are proposed here :

Principle of Contrast.

(1) With a complete understanding of an area, the unity rules can be broken, but one at a time. Extreme contrasts in scale can be dramatic provided the other unities are observed (ch.2.3.3.2).

(2) Provide for the inclusion of new architecture (ch.2.3.3.2).

(3) In a new building, an inviting public nature may be more important than explicit links to the past.

The Principle of Contrast implements the Quality Values in the Aesthetic Group and the Authenticity Group.

Principle of Authenticity

(1) modern materials can be used where it shows that a modern element has been introduced, such as wiring or plumbing which should not be faked to look like old material.

(2) change can occur provided it does not cause damage to the evidence of previous changes.

(3) on signs it is not necessary to imitate old styles of lettering or graphics.

(5) the appearance of a new building should not lead to it being interpreted as an old building.

The Principle of Authenticity draws from points by Marquis-Kyle and Walker (1992) in Chapter 2.3.3.1 and from Day (1992). The principle implements the Quality Values in the Authenticity Group.

2.3.5.3 Assessment of Precincts

Black (1989) found that his model to predict preferences for heritage buildings, with three dimensions of 'size', 'clarity of purpose' and 'special features', worked for individual buildings but "proved unreliable in rank ordering the preferences for heritage precincts"(p.413):

> To predict preferences for heritage precincts would require a complete restructuring of the model, the selection of new discriminators, the construction of new and probably more dimensions.(p.413)

However, Black's three dimensions are consistent with some concepts developed so far :

Size

The Quality Value of Size in Table 2.2 is consistent with Black's (1989) predictive dimension of 'size'.

Clarity of Purpose

Black (1989) concluded that his dimension of 'clarity of purpose' "would not seem appropriate for heritage precincts"(p.418) and "the ability to perceive intended use of heritage buildings in a precinct is not a major factor in indicating preference"(p.419) even though "For individual heritage buildings the ability to perceive the building's purpose appeared related to the level of preference"(p.418). His reasoning is based on a poor rating for a precinct (Charters Towers) which "was the most labelled and its individual buildings most easily identifiable as to their intended use"(p.418), and a high rating for two precincts that "could be identified as to their general purpose, government and commercial, but not specific usage"(pp.418-419).

A possible explanation for this result is that the specific usage of individual buildings in precincts need not be considered and instead consideration should be given to an overall usage or purpose for the area such as 'commercial' or 'government'. The

Quality Value of Representativeness in Table 2.2 is consistent with Black's (1989) finding of high ratings for precincts that could be identified as to their general purpose.

Special Features

Black (1989) contends that "in heritage precincts dimensions of design, style, cohesion appear in features that add to and/or detract"(p.421). Cohesion in design or style, as an expression of special features, is a requirement that parallels the idea of congruity in architectural design matters in the concept of Area Architectural Character.

2.3.5.4 Conclusions

The concepts of "character" and Area Architectural Character are both statements of fact about an area and therefore are to be considered in its assessment. Neither is a criterion by which to assess an area.

The statements of fact about an area can include contrasts and differences. There is no need to look only for the similarities or congruities in the concept of character as the basis for a favourable assessment of an area. Day's (1992) research and the two Principles of Authenticity and Contrast together indicate that the need to perpetuate former architectural styles may not be as strong as some urban designers have claimed.

Black's (1989) three dimensions to predict preferences in areas or individual buildings are consistent with two Quality Values, Chenhall's Lexicon in which the original purpose of a building is the highest order of classification, and the concept of Area Architectural Character.

2.3.6 New South Wales - Heritage Guidelines

The search for concepts, principles and methods was continued in guidelines from the Heritage Council, the Department of Planning, Bathurst City Council and the National Trust, all in New South Wales.

2.3.6.1 Heritage Council

The Heritage Council and the Royal Australian Institute of Architects (1981) produced the publication INFILL - Placing New Buildings Amongst Old which stated the character of an area is determined from a relatively restricted range of materials, building techniques, shapes and structures. The publication called for infill development that will maintain the unity of a group of buildings, without imitating neighbours, but with similar broad effects even though modern materials and design are used. The design guidelines for infill development were like those in Kerr (1984) and Marquis-Kyle and Walker (1992) in Chapter 2.3.3, and the Principle of Relatedness (new similar to old) in Chapter 2.3.4. The guidelines implement the Quality Value of Aesthetic Quality in Table 2.2.

2.3.6.2 New South Wales Department of Planning

The Department's (1990) publication Heritage Assessment Guidelines had a four step process to assess a place :

(1) investigation of range of values - one or more of aesthetic, historic, scientific, social, archaeological, architectural, natural, and aboriginal values : these values indicate types of significance (p. 3) :

(2) interpretation of the comparative values - rarity, group value, landmark value, representative value, and integrity

(3) identification of significance in terms of local, regional, state, national, and world heritage (p. 3) ; this step determines

the level of significance (p.13);

(4) conservation management strategies - listing under the Heritage Act and town planning controls (p.3).

The assessment process in (1) to (3) above implies that heritage significance (ch.2.3.2) has three dimensions which are type of significance, comparative significance and level of significance.

The first four values in (1), which determine the type of significance, are also in Chapter 4 of the Australian Heritage Commission Act 1975. These four values envelop the *archaeological*, *architectural* and *aboriginal* values and are likely to envelop the *natural* value in discussions of natural heritage.

The "comparative values" in (2) correspond closely with the Characteristics Of Distinctiveness (ch.2.3.2) which determined the degree of significance for both the Australian Heritage Commission and Kerr (1990,p.11), as shown in the following Table 2.4. The Landmark value in (2), was described as visual, innovative or historical prominence (p.12) which suggests it implements the Quality Value of Size/Magnificence.

The term "group value" in (2) is not in the Australian Heritage Commission "degrees of significance". This term is distinguished from "representative value" in (2) above but it is not clear why the two terms are considered different. The Australian Heritage Commission's (1990) National Estate Criterion D2 (ch.2.2.2.1) requires that a place represent a class of cultural places and a "group of places"(p.23). Criterion D2 can be summarised to mean a place is significant if it represents a class or group. Consequently, the Department's "group value" and "representative value" appear to be criteria of significance rather than comparative values to determine the degree of significance.

TABLE 2.4 : COMPARISON OF GUIDELINES

Australian Heritage Commission "degree of significance"	N.S.W. Department of Planning "comparative value"
1. rare	rarity
2. early in time	representative value (era)
3. influential within type	representative value (type)
4. endangered	-
5. fine for its type	integrity
6. valuable for research	-
7. major stage or climactic point for its type	landmark value
8. -	group value

2.3.6.3 Bathurst City Council

In 1977, the Bathurst City Council and the New South Wales National Trust together defined areas in the city that had historic significance. The Council's guidelines for alterations and for new buildings, including houses, sought to conserve the particular character of an area by preserving the elements of old buildings in new buildings. The elements included roof form, proportion in elevation, proportion in openings, height, setback, carparking, side clearance, landscaping, traffic, materials, verandah and fences. These controls implement the Quality Value of Aesthetic Quality in Table 2.2 and the Principle Of Relatedness (ch.2.3.4).

2.3.6.4 National Trust - Sydney Wharves

The National Trust (1989) assessed the wharf structures remaining in Sydney Harbour for their cultural significance. The report used the "aesthetic, historic, scientific and social categories" in the Burra Charter (p.57). In contrast, the Australian Heritage Commission Act 1975 (s.4) and the New South Wales Department of Planning (1990) in its 8 types of significance, respectively denote the same four categories as values or types. It seems more likely the four words should be regarded as categories or types and not as values. Consequently, they do not suggest a purpose value or a quality value that should be added to Table 2.1 or Table 2.2.

The National Trust's (1989) criteria to test significance in the aesthetic category are :

> Design - the site or item has a harmonious or pleasing shape, colour or style. It reflects the style of a period or development of style. The site as a whole is balanced and fits together.

> Setting - the site or item harmonizes or contrasts with its surrounding environment, complement the area, is a visual element within the surrounding landscape, or dominates its surroundings.
> Symbolic - the site or item is a symbol of an event important for the nation, state or locality ; it may be a tourist attraction, a site mentioned in literature.(p.57).

The aesthetic criteria above are similar to Kerr's (1990, p.10) third criterion of formal or aesthetic qualities (ch.2.2.3). The criteria, together with Kerr's (1984) requirement of "unity a place exhibits in its scale, form and materials"(p.36), are here termed the criterion of Architectural Aesthetic Significance Of A Place.

The 'design' and 'setting' criteria implement the Quality Value of Aesthetic Quality. The 'symbolic' criterion combines parts of the Principle of Contrast (ch.2.3.5.2) and the concept of Landmark (ch.2.3.6) and it implements the Quality Value of Associational Links. The 'design' criterion is similar to Black's (1989) third dimension of special features (ch.2.3.5.3).

2.3.6.5 Conclusions

The Characteristics Of Distinctiveness (ch.2.3.2) mean much the same as the comparative values in the guidelines from the New South Wales Department of Planning but they do not account for the group value of a place. The meaning of "group value" is not clear. The literature did not disclose any principles or methods to assess a heritage area.

In the following Chapter 2.3.7, two conservation studies from Victoria were reviewed. That is followed in Chapter 2.4 by a review of seventeen conservation studies in Queensland that are listed in the Australian Heritage Commission (1991) Bibliography and a review in Chapter 2.5 of seven town plans which aimed to conserve the built heritage noted in some of those studies.

2.3.7 Conservation Studies - Victoria

In Melbourne's inner city area, conservation studies and planning controls for conservation were prepared by the Victorian Ministry of Planning and Melbourne City Council. The planning controls are in the Melbourne Metropolitan Planning Scheme. Conservation studies for two parts of this area, for Little Bourke Street and for East Melbourne and Jolimont, are discussed below.

2.3.7.1 Little Bourke Precinct

Butler (1989, pp. 3/1-2) has a method for the assessment of individual heritage places within a heritage area. A theme is established for the area, or a theme is established for each discernible part of the area, which describes a type of building occupation in terms of a type of occupant (say ethnic) or a type of use. The theme is found from street observation and investigations of site history. Each building in the area is then assessed for the capacity of its exterior to illustrate a theme. For each building, a statement is then made in terms of its History, Description, External Integrity, Streetscape and Significance.

The method in Table 2.5 is deduced from the approach taken by Butler (1989) and it is here described as the Method Of Historic Theme. The Method of Historic Theme derives a building's historic significance, as distinct from its aesthetic significance (chs. 2.3.6, 2.3.6.3), it requires the facts of history to be shown by the fabric (Principle Of Evidence) and it is consistent with the idea that a precinct has an original purpose (chs. 2.2.6, 2.2.7, 2.3.3.1). The Method of Historic Theme implements the Quality Value of Representative of Historic Theme and it implements the idea proposed by Fisher (1985) that the places be identified in a historical context (ch. 1.2.4).

TABLE 2.5 : METHOD OF HISTORIC THEME TO ASSESS A PLACE

STEP 1 : CONTEXT

establish one or more historic themes or contexts for the area based on classes of occupants or use visible from the street

↓

STEP 2 : INSPECTION

from street inspections, make a list of places that have the potential to contribute to the precinct

↓

STEP 3 : SITE RESEARCH

research the history of each place through official records, photos, plans

↓

STEP 4 : EVALUATION

establish whether any historic theme is still expressed by the publicly accessible parts of the building (External Integrity)

↓

STEP 5 : SIGNIFICANCE STATEMENT

write statements for the architectural expression in the place and the streetscape expression under the headings of Description and Streetscape, both being summed up in the Significance Statement. The statement gives a story about the place.

2.3.7.2 East Melbourne and Jolimont

Gould (1983) made an assessment study of the East Melbourne and Jolimont area for Melbourne City Council which consolidated the results of three earlier studies and applied to those studies the Council's standard grading system.

The method of survey was to visually inspect the exterior of the buildings. A standard inventory sheet was produced for each contributory building showing any existing listing, grading, date of construction, alterations or additions, condition/integrity, building citation, and recommendation. The building citation contained the important architectural features of the building, and the historic and social significance where it was known.

The study did not describe the principles or methods used to assess the significance of places, streetscapes or precincts. The study made clear that visual data and not historic or social data was used.

The ideas that Gould (1983) had in her guidelines for new development were similar to those in the Principle of Relatedness (ch.2.3.4). The assessment study and the planning controls for conservation by Gould (1983) implement the Purpose Value of Reminder Of Tradition (former architectural styles) and the two Quality Values of Aesthetic Quality and Representativeness (of the era to 1914).

2.3.8 Summary of Concepts

The research has developed concepts that go part of the way towards a method to assess an area and it has developed concepts to conserve an area.

The concept of Area Architectural Character is a statement of fact about the architectural characteristics in an area and it cannot be used as a criterion to assess an area for a purpose of architectural aesthetics. The Principle Of Historic Precinct describes the attributes that a heritage area should have but it is not a principle from which to make an assessment. It provides a list of checks of an assessment, after the assessment has been made. Two methods to assess an individual building were developed but they cannot be used or extrapolated to assess an area because they do not have a framework to establish a spatial explanation of a heritage of cultural interaction with the environment in an area (ch. 1.2.4) or a heritage of tradition (chs. 1.2.6, 2.2.8) in an area.

The concepts that have been formed to assess an area, to assess individual buildings and to conserve the architectural characteristics in an area are listed below, with a discussion of inconsistencies in the latter. The last part of the summary describes how often the Purpose Values and Quality Values in Tables 2.1 and 2.2 were implied in the literature.

2.3.8.1 Concepts to Assess an Area

Principle Of Historic Precinct requires an area to communicate the notion of historical change and continuity within an areal

boundary (2.3.3.1).

Principle of Evidence requires a place to be evidence of history, purpose and material (ch.2.3.3.1).

Area Architectural Character describes the congruent and the incongruent architectural characteristics of an area (ch.2.3.5.1).

Dimensions In Heritage Significance - there are three dimensions of type, level and degree of significance (ch.2.3.6).

Landmark is a place that has visual, innovative or historical prominence (ch.2.3.6).

2.3.8.2 Concepts to Assess a Place

Characteristics Of Distinctiveness are used to determine the degree of significance of a place (2.3.2).

National Estate Method to assess the significance of a place, uses the Australian Heritage Commission's National Estate Criteria and the Characteristics of Distinctiveness (Table 2.3).

Architectural Aesthetic Significance Of A Place. The aesthetic significance of a place depends on the criteria of design, setting and symbolic importance and on unity in its scale, form and materials (chs.2.2.3, 2.3.6.3).

Historic Theme Method can be used to assess individual old buildings (Table 2.5).

2.3.8.3 Concepts to Conserve an Area

Principle Of Relatedness regulates the external appearance of new buildings to ensure they are similar to the old (ch.2.3.4).

Principle of Contrast is to make the old prominent amongst the new and to facilitate new architecture where it is wanted

(ch.2.3.5.2).

Principle of Authenticity is to ensure that new buildings and changes to existing buildings are not confused with old buildings (ch.2.3.5.2).

Method Of Line Procession may be used in building design to project a continuum or a procession of lines linking architectural features between buildings which joins the new to the old (ch.2.3.3.3).

Inconsistencies in Principles for Conservation

The Principle of Evidence (ch.2.3.3.1) warns that fabric should be evidence of the past and the Principle of Authenticity (ch.2.3.5.2) holds that modern materials should not be faked to appear old. These two principles are consistent but they are not consistent with the Principle of Relatedness (ch.2.3.4) in which new buildings should be similar to the old in order to conserve the architectural characteristics of old buildings. If new buildings are similar to the old, there will be confusion as to what is evidence of the past, what is authentic, and what is not authentic. There is the possibility, in an environment of new buildings with old architectural characteristics, that an old well kept building will be regarded as new (ch.2.3.5.2).

2.3.8.4 Implementation Of Cultural Values

The number of times the Purpose Values and Quality Values implicitly appeared in the concepts, principles and methods is shown below in brackets. The Purpose Values and Quality Values that were implied in the National Estate Method in Table

2.3 are not included and counted below.

Purpose Values - Aesthetic Ideal (1) and Reminder Of Tradition (1)

Quality Values - of Aesthetic Quality (4), Associational Links (1), Authenticity Of Materials (1), Representativeness (2), Representative Of Historic Theme (3), Representative Of Type (1), Size (1) and Size/Magnificence (1)

The literature did not refer to tourism or to the need for better information or theory that could be said to respectively implement the Purpose Values of Enjoyment or Research. The literature implemented the Quality Values in the Groups of Aesthetics (43%), Association (7%), Authenticity (7%) and Representativeness (43%), but not those in the Groups of Achievement, Rarity or Story.

The literature did not suggest any incompatibilities in the statements of importance or value judgments which corresponded to the Purpose Values and Quality Values above. Inconsistencies and incompatibilities seem more likely to arise in the means of conservation, in the implementation of the principles, than in the cultural values.

2.4 Assessment Studies in Queensland

2.4.1 Introduction

Seventeen assessment studies of historic areas in Queensland were analysed in Chapters 2.4.2 to 2.4.5 respectively for their purpose, criteria, method of assessment and recommendations. The studies are listed in Table 2.6 where twelve studies by the National Trust are indicated by the letters NT(Q) and fourteen studies in the Australian Heritage Commission (1991) bibliography are indicated by their bibliographic reference number. Three studies relate to the Queensland City of Maryborough which now describes itself as a heritage city. Eight studies are in north Queensland.

The Commonwealth Government has provided funds through the National Estate Grants Program for conservation reports in Queensland and other states since 1975. From 1973, the National Trust broadened its register to include townscape and landscape elements (Walker, 1977b, p.77). The term townscape came to Australia from conservation planners in England in the 1950's and 1960's and "was more concerned with ideas of enhancement than of restoration, of good design rather than authenticity" according to Walker (1983, p.43).

TABLE 2.6 : QUEENSLAND ASSESSMENT STUDIES

	STUDY NAME	AHC No.	AUTHOR
1.	Charters Towers - A Report 1975	350	Ian Black and Co. (1975)
2.	Brisbane Valley - A Townscape Study : NT(Q) 1976	-	Martin, R., and Krieger, R. (1976)
3.	Ipswich - A Townscape Study : NT(Q) 1977	204	Martin, R., and Crofts, L. (1977)
4.	Port Douglas - Historic Buildings & Townscape : NT(Q) 1977	311	Walker, M. (1977a)
5.	Cairns - The Townscape Of A Tropical City : NT(Q) 1977	340	Watling, P., and Walker, M. (1977)
6.	Townsville - Conservation Of Historic Areas : NT(Q) 1977	195	Walker, M. (1977b)
7.	Irvinebank - A Townscape Study : NT(Q) 1978	316	National Trust (1978b)
8.	Charters Towers : NT(Q) 1978	344	Walker, M. (1978a)
9.	Ravenswood - Town Management And Conservation : NT(Q) 1978	312	Walker, M. (1978b)
10.	Maryborough : NT(Q) 1978	201	Moore, R., Walker, M., and Conway, T. (1978)
11.	The Anzac Square - G.P.O. Precinct Brisbane : NT(Q) 1978	267	National Trust (1978a)
12.	Charters Towers - A Guide To Infill Development : NT(Q) 1979	510	Walker, M. (1979a)
13.	Mount Morgan : NT(Q) 1979	503	Walker, M. (1979b)
14.	Maryborough - Conservation And Tourism Study, 1989(a)	-	Bechervaise, H. (1989)
15.	Maryborough - Wharf Street Heritage Precinct : 1989(b)	354	Peat Marwick Hungerford (1989)
16.	Maryborough - St. Paul's Church 1990	-	University Of Queensland (1990)
17.	Ipswich Heritage Study 1992	-	University Of Queensland (1992)

2.4.2 Purpose of Assessments

Four of the seventeen studies had a study brief. The briefs were guidelines to tasks rather than indicators of the purpose of the four assessments. The explicit and implicit aims in all studies were used to determine the purpose of assessment.

There were three main purposes of conservation in the studies reported. The first purpose was to ensure that new buildings are in sympathy with the other buildings in a town (Charters Towers, Brisbane Valley, Cairns, Ipswich, Port Douglas, Townsville). The phrase "in sympathy with" is understood to mean not contrasting with the existing patterns in buildings. The purpose was to keep the old architecture in vogue through its re-creation in new buildings and to keep old areas as reminders of how things once were in terms of architecture. The second purpose was to put activity back into an economically depressed town (Ravenswood) or part of a town (Maryborough) by making it attractive to tourists. The third purpose was to keep an old town as an example of a former type of development (Mt. Morgan, Irvinebank, Charters Towers).

The Purpose Values that were implicit in the studies are listed below with the frequency of occurrence of each Purpose Value in brackets :

Aesthetic Enjoyment (6), Aesthetic Ideals (7), Conserving A Tradition Of Community Values (1), Education of Society (1), Entertainment (4), Enjoyment (4), Excellence In Achievement (2), Maintaining A Tradition Of Community

Goals (1), Reminder Of Current Social Attitudes (1), Reminder Of Tradition (4), Research (1), Tradition Of Initiative (2).

The above values are grouped below in the group headings from Table 2.1 (see Chapter 2.2.8), with the frequency of occurrence in each group shown as a number and as a percentage of all occurrences :

Aesthetic (13, 38%), Enjoyment (8, 24%) Research (1, 3%) and Tradition (12, 35%).

The percentages of occurrence do not correspond well with those shown in Table 2.1. The purposes of Aesthetics and Enjoyment appeared two to three times more in the studies than was anticipated by Table 2.1, while the purpose of Tradition appeared only half as much as expected. This emphasis may have arisen because the authors had a common belief that tourists are interested in the visual experience of authentic looking reproductions of old buildings and not in the detail of historical interactions in each of the areas. The emphasis may also reflect the particular skills and background of the authors and those who commissioned the studies.

The Purpose Value of Research in Table 2.1 was represented in one study (Cairns). The low priority given to Research may indicate that the Queensland studies were not concerned with "what life was like", which was the matter of interest to archaeologists (ch.2.2.6) and necessary to 'represent the interaction of natural and human forces' (ch.1.2.6).

2.4.3 Criteria in Assessments

A search was made in the assessment studies in Table 2.6 for the criteria used to assess heritage places or areas. One set of six criteria was used by Martin and Crofts (1977, p.37) to evaluate the study areas in Ipswich. A second set of eight criteria to select buildings of significance was used in Cairns by Watling and Walker (1977, p.39), in Townsville by Walker (1977b, p.20) and in Maryborough by Moore, Walker and Conway (1978, p.30). A third set of criteria was used at Mount Morgan by Walker (1979b, p.25) and at Maryborough by the University of Queensland (1990, p.56). A fourth set of criteria from the New South Wales Department of Planning (ch.2.3.6) was used by the University of Queensland (1992) at Ipswich. Ten studies had no explicit criteria.

The criteria in some studies were used to construct the concept of Townscape Value and the Criterion of Area Architectural Quality. The parts of Townscape Value are landmarks, location, unity and use. The Criterion of Area Architectural Quality requires,

> *a high degree of unity in the materials, design and scale at each place in the area, a high degree of unity across the area in the design and materials in the buildings, and a contrast in scale provided by larger buildings which function as landmarks or anchor buildings to establish the identity of the area through their scale, architecture and setting.*

This criterion includes the factors in the concept of Architectural

Aesthetic Significance Of A Place (ch.2.3.6.3), and two factors, landmarks and unity, but not location or use, that are in the concept of Townscape Value in the the study by Queensland University (1990, pp.1, 57-59) of St. Paul's Church in Maryborough. It provides the test that can be used to make an assessment of the architectural characteristics of an area which was missing in the complementary concept of Area Architectural Character (ch.2.3.8).

While the studies as a whole had assessment criteria that implied the seven groups of Quality Values, it was found that thirteen of the seventeen studies used architectural characteristics to determine significance. The Quality Values implied in the assessment criteria in the studies are listed below with the number of times each occurs in the studies shown in brackets :

Aesthetic Diversity (1), Aesthetic Quality (5), Associational Links (4), Authenticity (1), Authenticity In Materials (1), Authenticity In Purpose (1), Clarity of Purpose (1), Diversity (1), High Achievement (3), Rarity (1), Representativeness (1), Research (3), Size (1) and Story To Tell (4).

The above Quality Values are grouped below under the group headings used in Table 2.2 with the number of occurrences and percentage of occurrences in brackets :

Achievement Group (3, 11%), Aesthetic Group (8, 28%), Associational Links Group (4, 14%), Authenticity Group (4, 14%), Rarity Group (1, 4%), Representativeness Group

(1, 4%), Story Group (7, 25%)

All seven groups of Quality Values in Table 2.2 are represented in the criteria in the Queensland studies. A comparison of the above seven groups with those in Table 2.2 shows some similarity in the percentage frequency of occurrence in the Aesthetic Group, Authenticity Group, Rarity Group and Story Group, and some disparity of occurrence in the Achievement Group, Associational Links Group and Representativeness Group.

2.4.4 Methods Of Assessment

2.4.4.1 Brief in Martin and Krieger (1976) Brisbane Valley; Martin and Crofts (1977) Ipswich

The common brief for the Brisbane Valley study by Martin and Krieger (1976) and the Ipswich study by Martin and Crofts (1977), paraphrased in Chapter 2.4.2, has a three stage structure of *survey* (clauses (1) to (4)), *analysis* and *evaluation* (clauses (4) & (5)) and *recommendations* (clause (6)).

The brief required a wide range of research to gather facts on the valley's physical characteristics and its history. The valley covered 3 shires, and being so large, the brief proposed there should be "a systematic identification of areas of special interest" in a "hierarchical approach in which large areas of significance are first determined and progressively smaller areas isolated until single elements of the total environment are identified."(p.130). In a discussion of the method of analysis, the brief for both studies said :

> Those elements which can be shown to have a direct and continuous link with the historical development of the area, either in architectural terms, or in the arrangement of urban or rural form may be considered to form historic precincts.
> Those elements of the built and/or natural environment which, as a group, contribute to a visual relationship identifiable with the area may be considered to be a townscape resource of the area.(p.131).

The method of analysis is plausible but perhaps not practical because there is no single reason or objective with which to manage the wide range of information to be considered in the study. The fifth requirement in the brief, evaluation, is an example of circular reasoning and of no assistance.

The term "significance" was used in the brief, and in other studies, as if its meaning was easily understood. There was no suggestion of a method to identify the large and the small areas of significance referred to in the analysis in clause (4).

2.4.4.2 Concept of Character

The character of an area or site was referred to as data in 12 assessment studies, but its meaning was not clear. The study by Moore, Walker, and Conway (1978, p.42) for Maryborough declared the principal function of any conservation program is to identify and to retain the essential features contributing to the character of a place. Four studies said "character" is derived from those elements that contribute most to the appeal or pleasantness of the city, and there are elements that detract from its character (Moore, Walker, & Conway, 1978, p.36; Watling & Walker, 1977, p.19; Walker 1977b, p.10; Walker, 1978b, p.11). This approach, which may come from a desire for visual ideals in an historic environment, is similar to that taken by Marquis-Kyle and Walker (1992) and Kerr (1984) (chs.2.3.3.1, 2.3.3.2).

The studies discussed the character of the study area in terms of the visible elements in the physical environment, but did not synthesise these observations to make an overall statement of the character of the study area. In the studies, the elements in "character" are much broader in scope than is suggested by the statement - "urban character is derived from the homogeneity of the form and siting of buildings" - in the Illustrated Burra Charter (1992, p.31). For example, in the Mount Morgan study, Walker (1979b) believed character is often difficult to describe (p.10) and it includes natural features, river, town layout, approaches, views, vegetation, open space, buildings and a mine.

In her study of Townsville Walker (1977b) explained why "the description and assessment of the character or 'appeal' of a place is sometimes difficult"(p.3). Again, in her study of the former gold mining town of Charters Towers, Walker (1978a) noted how difficult it was to express the character of the study area :

> To select a boundary for a conservation area in Charters Towers is difficult. There are no clear edges or dramatic changes in character. Each area has its attraction, and merges almost imperceptibly into the whole.(p.12).

The difficulty may arise from the researcher's expectation that unity and an appealing landscape must be found, whereas in reality there is likely to be a lack of pleasing congruency between elements in old mining areas. For example, the road patterns in old mining towns are usually irregular, the original homes and shops were grouped around the major mines, and heaps of crushed ore or open pits may occur near the mines. The usual disorder in old mining towns may partly explain the difficulty in the treatment of "character" in the studies for Charters Towers, Ipswich, Irvinebank, Mt. Morgan and Ravenswood, and the subsequent reliance on the visual quality of individual historic buildings, trees and fences.

The concept of character in relation to the assessment of heritage areas was discussed earlier in Chapter 2.3.5.1 where the conclusion was that the concept is only a statement of fact, and not a criterion, it should include both congruent and incongruent characteristics, and it does not have a spatial framework to assess an area. The use of "character" in the assessment studies decreased after 1979.

2.4.4.3 Precincts

The University of Queensland (1992) Ipswich study used different precincts and a different dating typology to the 1977

Ipswich study. A reference by the University Of Queensland study (1992, p.3/21) to the Martin and Crofts (1977) Ipswich study contended : "This study focused on streetscape as opposed to general heritage values". The two studies are apparently not comparable because there is no common system of assessment. This situation is similar to that in the East Melbourne study (ch.2.3.7.2) where the gradings in three earlier studies were said to be not compatible.

The quote from Walker (1978a, p.12) above, and the absence of a clarification of the "interaction" criterion in the University of Queensland (1992) Ipswich study to assess precincts (ch.2.4.3), together indicate there is no recommended procedure to delineate a heritage area.

2.4.4.4 Summary

In the Queensland assessment studies it is hard to identify a method to assess an area, except in the University of Queensland (1992) study of Ipswich. In the earlier studies from 1975 to 1979, when the National Estate Register was being prepared with limited funds, the places of historic significance were probably identified from information provided by local heritage enthusiasts such as National Trust members.

While most studies gave an overall historic background to the study area, the analysis and judgments relied on visual data. The data analysis did not usually connect the important places to their historic or local associations or say how the individual recommended sites were selected. The University of Queensland (1992) study was the only study to refer to external methodology. The researchers did not say whether their evaluation of the study area might differ from that of residents or non-specialist visitors such as tourists.

2.4.5 Recommendations in the Studies

2.4.5.1 Recommendations For Town Planning

The studies, except those by the National Trust (1978a) for Anzac Square and by the University of Queensland (1992) for Ipswich, recommended town planning controls to ensure that new development was similar to, and not larger or more dominant than, the old. This approach was termed the Principle of Relatedness in Chapter 2.3.4.

Precincts were recommended in ten studies but it was not clear how the precincts were defined. One precinct in Charters Towers was very large (Walker, 1979a). The Martin and Crofts (1977) Ipswich study listed 38 historic buildings and 10 precincts.

The University of Queensland (1992) Ipswich study warns against copying architecture from an earlier age, but said :

> It is reasonable for the Council to set out parameters within which the designer may be free to range.
> A recommended approach is to identify in a descriptive way those qualities of character, scale, skyline, or whatever valued attributes are specific to the place, and to leave administrative scope for the authorities to undertake detailed and painstaking negotiation in the event of a non-conforming proposal of sufficient quality.(4/49).

This recommendation implies that the study did not give Council design principles or objectives for new buildings in the precincts. It would be useful to have an idea of what a "non-conforming proposal" (p.4/49) could be. However, this question is not part of an assessment study.

2.4.5.2 Recommendations For Tourism & Commercial Areas

The potential for tourism is noted in five studies, by Walker (1978b) at Ravenswood, by Moore Walker and Conway (1978,p.44) at Maryborough, by Bechervaise (1989) at Maryborough, by Peat Marwick Hungerford (1989) at Maryborough, and by the University of Queensland (1992,pp.4/44,45,52) at Ipswich.

The Peat Marwick Hungerford (1989) Maryborough report highlights some significant difficulties in promoting a heritage area to commercial users and to tourists :

(1) identifying a theme for the area ;

(2) overcoming a poor economic background (usually the prime reason for the existence of the old buildings) ;

(3) organizing community groups to focus their attention on the heritage area, and being able to tell them how they can benefit by transferring themselves to the area ;

(4) specifically identifying the exact location and nature of tourist attractions, or envisaging what could become a realistic tourist attraction ;

(5) establishing commercial viability.

The University of Queensland (1992) study for Ipswich said the promotion of tourism based on historic buildings needs a coherent approach to the development of museums and historical centres, a main street program, a comprehensive city tour to integrate the numerous heritage places, welcome signs at major approaches, a coal mining heritage centre, accommodation and entertainment, and heritage events (pp. 4/44, 4/45, 4/52).

The other three studies that discussed the potential for tourism did not raise these practical problems in utilizing a heritage area for tourism or other economic objectives. They possibly imputed an economic objective into a non-economic study in order to convince a wider section of the community that heritage conservation made good practical sense.

2.4.6 Conclusion

Purpose

The studies implemented Purpose Values from the Aesthetic, Enjoyment, Research and Tradition Groups (ch.2.4.2).

Three main purposes of conservation were found : first, the aesthetic purpose which was to repeat the architectural features of old buildings in new buildings (new similar to old) ; second, to provide an example of a former type of development ; and the third, an economic purpose through tourism. These three purposes are similar to the first and fourth of the following four purposes of conservation in the literature review in Chapter 1.2, namely (1) preservation of architectural styles, (2) to represent the interaction of human and natural forces, (3) tradition as a guide to the future and (4) economic improvement (tourism).

Assessment Criteria

The criteria in the assessment studies implied the use of the seven groups of Quality Values in Table 2.2. However, the assessment studies, except the University of Queensland Ipswich 1992 study, relied on an architectural aesthetic value (part of National Estate Criterion E) to assess an environment and seemed to overlook the broad range of criteria that they set out to use. From this architectural emphasis the criterion of Area Architectural Quality was deduced. The description of character in the studies had no apparent connection to the delineation of precincts or the recommendations.

The studies implemented the Principle of Evidence (ch.2.3.3.1) and the concept of Dimensions In Heritage Significance (ch.2.3.6). The idea (University of Queensland, 1992) that a precinct can 'demonstrate interaction in former times' is similar to the notion that historic areas can 'represent the

interaction of human and natural forces' (ch. 1. 2) and it was added to the Principle of Historic Precinct.

Method of Assessment

The attempts in the studies to use the concept of character to define a heritage area and its boundaries were inconclusive. This was acknowledged in some studies. The studies did not have an explicit methodology that can be repeated in the same areas.

Only two studies, the University of Queensland (1990 and 1992), referred to other literature as sources for their criteria, principles or methods. Most heritage studies used the well known survey-analysis-recommendation technique. None of the studies used the Method of Historic Theme or a variation of it. The University of Queensland (1992) study warned against copying architecture from an earlier age.

Recommendations In The Studies

The studies assumed the existing methodology in town plans can be adapted to control new development and that tourists will come for the views that interest building conservationists. No study dealt with the typical needs of tourists and only one study, Peat Marwick Hungerford (1989), questioned the type of experience that a tourist might have in a heritage area.

Effects Of Conservation

The studies made generalized statements of the costs and benefits of conservation, in favour of conservation, but did not apply the statements to any buildings or precincts. There was no comparison of the benefits from the conservation of individual buildings in a precinct and the benefits from the conservation of the precinct.

2.5 Conservation in Town Plans in Queensland

2.5.1 Introduction

Seven town plans in Queensland with provisions for heritage conservation were searched to find whether they used similar concepts to those developed so far in the thesis. While a town plan for conservation comes after the assessment of a heritage area, its objectives should reflect a Purpose Value and its controls should reflect a Quality Value. In Queensland there has been a gap in the formal planning approach towards the conservation of built heritage areas because the Queensland Local Government (Planning & Environment) Act 1990 provides no power to conserve built heritage and the Queensland Heritage Act 1992 does not deal with heritage areas. To overcome the gap, local governments relied obliquely on their long-standing power to conserve the amenity of an area through controls on the external features of buildings.

2.5.2 Town Planning Schemes

In 1993, the Queensland local government councils with heritage provisions in their planning schemes were Douglas Shire (1982 and 1985), Cook Shire (1985), Brisbane City (1989), Maryborough City (1990) and Ipswich City (1993). Dalrymple Shire (undated) prepared a draft development control plan (DCP) for conservation in Ravenswood and Charters Towers (1992) adopted draft amendments to its planning scheme for heritage conservation in the central commercial area. There were no planning provisions for historic buildings in the town plans for Cairns City, Mackay City, Mareeba Shire, Mt. Morgan Shire or Rockhampton City in 1993.

2.5.3 Summary

Six of the seven town plans (not Brisbane's) implemented the broad recommendation in the assessment studies (ch.2.4.5) to "conserve the historical architectural character", or a similar intention. The recommendation implemented the Purpose Value of Conserving a Tradition of Community Values (architectural values) and the Principle of Relatedness (ch.2.3.4). The town plans did not disclose any additional values or concepts. This finding supported the contention in the literature in Chapter 1.2 that the conservation of heritage areas through town plans paid too much attention to architectural matters and did not consider other inherited cultural values as reasons for keeping areas of old buildings. The term "character" was used in all town plans, except the draft for Charters Towers, but was not defined. Four town plans had architectural sketches to more intensively apply the Principle of Relatedness. The results of the detailed survey in the 1992 Ipswich assessment study (ch.2.4) were not apparent in the 1993 conservation amendments to the Ipswich town plan.

Five plans had heritage precincts and the Cooktown DCP had a heritage street. Four town plans (Dalrymple, Douglas, Ipswich and Maryborough) considered heritage conservation would attract tourists. The intention to attract tourists was associated with the prescription of architectural sketches to guide new development. There was an assumption, carried over from the assessment studies, that residents and tourists like old architecture in new buildings. These points are summarized in Table 2.7 below.

No town plan took into account the inconsistency (ch.2.3.8.3) between the Principle Of Relatedness and the Principles of Authenticity and Evidence or considered visual contrast.

TABLE 2.7 : HERITAGE MATTERS IN TOWN PLANS

Town Planning Scheme	Principle of Relatedness	Architecture Sketches	Precinct	Promote Tourism
Douglas Shire (1982 and 1985)	Yes	Yes	Yes	Yes
Cook Shire (1985)	Yes	Yes	No	Yes
Brisbane City (1989)	No	No	Yes	No
Maryborough City (1990)	Yes	Yes	Yes	Yes
Ipswich City (1993)	Yes	No	No	No
Dalrymple Shire (undated) draft	Yes	Yes	Yes	Yes
Charters Towers City (1992) draft	Yes	No	Yes	No

2.6 Summary of Hypotheses For Assessment and Conservation

Introduction

A summary is presented of the method that has been developed to assess an area, to answer research questions 1 and 2 in Chapter 1.2.6. First, in Chapter 2.6.1, there is a summary of the implicit use of the Purpose Values and Quality Values in the preceding Chapters 2.3 to 2.5.

Chapter 2.6.2 restates the hypotheses for assessment that were derived in Chapters 2.2 to 2.4 as a preliminary answer to research question 2. The hypotheses are concepts to categorize data, a principle to use in the collection of data, criteria and principles to assess an area and methods to assess a place. They complete the top box of the third column "Construct Hypotheses" in Table 1.1.

In Chapter 2.6.3, three principles and a method to conserve a heritage area are restated. They do not answer any of the four research questions but they are potentially useful design concepts for an environmental plan to conserve an area.

The concepts to assess an area are subsequently synthesised in Chapter 2.7 and found to be not sufficient. The method to assess an area is then further developed and made sufficient in Chapter 3.

2.6.1 Summary of Use of Purpose Values and Quality Values

Table 2.8 below shows the relative frequency of the use of the four groups of Purpose Values and the seven groups of Quality Values in the four main heritage activities of promotion, profession, assessment and conservation.

TABLE 2.8 : Percentage Occurrence Of Groups Of Values

Groups of Purpose and Quality Values in Tables 2.1, 2.2 and % occurrence.		% occurrence in literature by practitioners (ch.2.3)	% occurrence in assessment studies (ch.2.4)	% occurrence in town plans (ch.2.5).
promotion		***profession***	***assessment***	***conservation***
Purpose Value Groups				
Aesthetic	13	50	38	0
Enjoyment	13	0	24	0
Research	9	0	3	0
Tradition	64	50	35	100
	99	100	100	100
Quality Value Groups				
Achievement	6	0	11	-
Aesthetic	18	43	28	-
Associational Links	9	7	14	-
Authenticity	18	7	14	-
Rarity	9	0	4	-
Representativeness	15	43	4	-
Story	24	0	25	-
	99	100	100	-

Note : In column 3, the Quality Values were well represented in the criteria that the assessment studies proposed to use. However, thirteen of the seventeen studies used only architectural characteristics to determine significance (ch.2.4.3).

Column 1 lists the four groups of Purpose Values and the seven groups of Quality Values that were promoted by the Australian Heritage Commission, its linked organizations, and tourism operators (ch.2.2). Column 1 also lists the percentage frequency of the promotion of each group of values.

Columns 2, 3 and 4 respectively show the percentage frequency of the use of the Purpose Values and Quality Values in literature by practitioners of conservation (ch.2.3), in studies to assess heritage areas (ch.2.4) and in town plans to conserve heritage areas (ch.2.5). The Quality Values are not in Column 4 because they are a basis of criteria to assess an area.

Use of Aesthetic Group of Purpose Values

The Purpose Value of Aesthetic Ideal, but not Aesthetic Enjoyment, was used in the assessment studies (ch.2.4) and the town plans (ch.2.5). There is scope to consider farming landscapes, industry, mining structures and structures fitted to natural resources such as wharves and bridges on provide Aesthetic Enjoyment or satisfy Aesthetic Ideals.

Use of Enjoyment Group of Purpose Values

The two Purpose Values of Enjoyment and Entertainment, were implemented through the proposals in some assessment studies (ch.2.4) and town plans (ch.2.5) to use old commercial areas and historic mining towns for tourism.

Use of Purpose Value of Research

The Purpose Value of Research, for example to find what life was like in early settlements, was implemented in one assessment

study (ch.2.4) but not in the town plans (ch.2.5). Research is needed to update knowledge of "natural and human interactions" and traditions that were, and may still be, in the heritage area. The theoretical context in which research questions may be asked is not explored but three groups of Purpose Values, Aesthetic, Enjoyment and Tradition, are foci for research questions.

Use of Tradition Group of Purpose Values

There are nine Purpose Values in the Tradition Group. The three Purpose Values of Tradition of Community Values, Promotion of Tradition and Reminder of Tradition were implemented as an architectural tradition of building style through the assessment studies (ch.2.4) and town plans (ch.2.5). These three Purpose Values are similar to the Purpose Value of Aesthetic Ideal when they express traditional architectural values.

The five Purpose Values of Tradition of Initiative, Education of Society, Reminder of Current Social Attitudes, Excellence in Achievement, and Maintaining a Tradition of Community Goals, were reasons to conserve an area in the assessment studies (ch.2.4) but were not used in any town plans (ch.2.5). The remaining Purpose Value, Education in Tradition, was not used.

The four groups of Purpose Values in Table 2.1 do not account for conservation carried out for the purpose of economic rejuvenation of a heritage area. This purpose was raised in the literature review in Chapter 1.2 and in two assessment studies in Chapter 2.4. Instead, the economic purpose is subsumed in a prior cultural purpose that enabled the economic activity. For

example, the central commercial area in Charters Towers always had an economic activity as its main function but this was only a result of a prior and necessary cultural infrastructure of mining, education and social structures for cohesion and advancement. The economic effects of conservation are researched in Chapter 5.

Use of Quality Values

The Quality Values were ostensibly well represented in the assessment criteria for the assessment studies but in the actual assessments there was a reliance on architectural criteria.

Conclusions Regarding Use of Values

There was a clear intention in the promotional and professional literature to use a wide variety of purpose values and quality values. However, the assessment studies and town plans did not implement the intentions as much as might be expected.

The findings, illustrated in Table 2.8, support the contentions in the critical literature in Chapter 1.2 that the conservation of heritage areas through town plans had a focus on historic architectural characteristics and it did not consider other inherited cultural values that might require the keeping of a group of old buildings.

The lack of a broad methodology to assess a built heritage area is a plausible explanation for the decreasing use of the purpose values and the increasing interest in architectural detail across the four stages of heritage activity from promotion to conservation.

TABLE 2.9 : INDEX TO HYPOTHESES FOR ASSESSMENTS

Concepts	Chapter in Thesis
Cultural Values	
Purpose Values for assessment and conservation	2.2.8, Table 2.1
Quality Values for assessment	2.2.8, Table 2.2
Concepts To Categorize Data	
Area Architectural Character	2.3.5.1
Chenhall's (1978) Lexicon	2.2.6
Landmark	2.3.6
Principle of Evidence	2.3.3.1
Concepts to Assess an Area	
Criterion of Area Architectural Quality	2.4.3
Principle of Historic Precinct	1.1.2, 1.2, 2.3.3.1
Principle of Visitation	2.2.7
Criteria of Enjoyment For Visitors	2.2.7
Criteria of Tradition For Visitors	2.2.7
Concepts To Assess a Place	
Criterion of Architectural Aesthetic Significance Of A Place	2.3.6.3
Characteristics of Distinctiveness	2.3.2
Dimensions in Heritage Significance	2.3.6
Method of Historic Theme	2.3.7.1, Table 2.5
Method of National Estate	2.3.2, Table 2.3
Townscape Value	2.4.3

2.6.2 Concepts in Assessment

2.6.2.1 Concepts to Categorize Data

Area Architectural Character

The architectural character of a group of buildings is a statement of fact that identifies those architectural characteristics of the group that are congruent and those characteristics of the group that are incongruent, as judged by architectural design criteria such as scale, form and materials and similar criteria.

The term 'scale' means the size of a building in comparison to the size of nearby buildings that provide a context. The term 'form' means the shape of a building or a particular design style, and it includes a verandah or a type of roof. In the test of congruency, the form of a building is compared to the form of neighbouring buildings. The term 'materials' means the exterior materials used to construct the form of the building. The concept of Area Architectural Character implements the Quality Value of Aesthetic Quality.

Chenhall's (1978) Lexicon

At the top or highest level in any hierarchy of classifying and naming man-made artifacts there can be no consistent, organizing principle other than the known (or presumed) reason why each object was originally created. Chenhall's Lexicon for naming historic objects and a data record structure for classifying them is :

(1) registration or accession number

(2) functional classification, major category, classification

term

(3) object name

(4) style or type name

(5) a subject that is represented

(6) an artist or artisan name

(7) maker or manufacturer

(8) materials of construction

(9) technique of construction

(10) place of origin

(11) date of origin.

Chenhall's Lexicon implements the Quality Values in the Authenticity Group.

Dimensions In Heritage Significance

Heritage Significance has three dimensions which are type of significance, level of significance, and degree of significance :

(1) Type of significance comprises the four adjectival descriptions of significance in Chapter 4 in the the Australian Heritage Commission Act, namely aesthetic, historic, scientific, and social.

(2) Level of significance is determined by identifying and documenting a place in its context. The level is the community level for which the place or area is significant, being one of local, regional, state, etc., or a particular culture.

(3) Degree of significance is determined by the presence of one or more of the Characteristics of Distinctiveness.

Landmark

A landmark has visual, innovative or historical prominence. A landmark quality is another characteristic of distinctiveness to determine the degree of significance of a place.

Landmark implements the Quality Values of Clarity Of Purpose, Size and Size/Magnificence.

Principle Of Evidence

To assess the significance of a place :

(1) The place should provide evidence which demonstrates a philosophy, custom, taste, design, usage, process, technique, material or association with events or people ;

(2) know its history ; background knowledge is often needed, such as technical processes that were carried on, the economics of the process and building techniques ;

(3) a guiding principle is that the heritage value should be reflected in the fabric of the item ; the physical evidence at a heritage place must support the facts of the history of the place, why it was created (purpose), why it was put in that location, how it was used and how it has changed ;

(4) assessment on the basis of authenticity and intactness of fabric could be overtaken by other values, such as historic or social associations, but there is a limit to the extent to which historical and other associations can override the need for intact fabric.

The Principle Of Evidence implements the Quality Values in the Authenticity Group.

2.6.2.2 Concepts To Assess Area

Criterion of Area Architectural Quality.

The architectural quality of a group of buildings requires a high degree of unity in the materials, design and scale at each place in the area, a high degree of unity across the area displayed by the design and materials in the buildings and a contrast in scale provided by larger buildings which function as landmarks or anchor buildings to establish the identity of the area through their scale, architecture and setting. This criterion implements the Quality Values of Aesthetic Quality, Size, and Diversity from the Aesthetic Group, and High Achievement.

Principle of Historic Precinct

An historic precinct should be a bounded area for which there is a heritage purpose ; it should demonstrate its original purpose, communicate the idea of continuity and change to interpret phases of history so that visitors can recognize those phases, and it should use recurring themes such as the nature of work or design. It should represent a heritage of interaction of human and natural forces, or at least demonstrate social interactions in former times that may not be evident in any single building. The Principle Of Historic Precinct implements the Quality Value of Representative Of Historic Theme.

Principle of Visitation

Visits are most successful when there is entertainment associated with intellectual stimulation, an educational side benefit and an opportunity to promote tradition.

The Principle implements the Quality Values in the Achievement, Aesthetics, Associational Links and Story Groups.

Criterion of Enjoyment For Visitors

Three appealing characteristics of old buildings are clarity of purpose, special features and size. Visitors come for leisure time alternatives to their everyday world, enjoyment, association with greatness, the great human story, something that concerns themselves and an understanding of the people who formerly lived in the historic area. The joy in visiting historic sites does not depend on a particular famous person or event but rather it depends on the ability to sense and feel a different place and time, to fantasize about life in earlier times, while in the presence of historic buildings, objects, and scenes. When the site is associated with a famous person, the artifacts may take on more significance from the person than from an artifact itself. The Criterion Of Enjoyment For Visitors implements the Quality Values of the Achievement Group, Associational Group, Representativeness Group and Story Group.

Criterion of Tradition For Visitors

A place with a role in history that serves as a reminder of current social attitudes will be appreciated by visitors and assist parents who are anxious to teach their children about their heritage, their roots and the history that is important to them. The Criterion Of Tradition For Visitors implements the Quality Values in the Story Group.

2.6.2.3 Concepts To Assess a Place

Architectural Aesthetic Significance of a Place

The architectural aesthetic significance of a place depends on the criteria of design, setting and symbolic importance :

Design - the site or item has a harmonious or pleasing shape, colour or style. It reflects the style of a period or development of style. The site as a whole is balanced and fits together. The place has unity in its scale, form and materials.

Setting - the site or item harmonizes or contrasts with its surrounding environment, complements the area, is a visual element within the surrounding landscape (a landmark) or dominates its surroundings.

Symbolic - the site or item is a symbol of an event important for the nation, state or locality.

The criterion of Architectural Aesthetic Significance Of A Place implements the Quality Values of Associational Links and Aesthetic Quality.

Characteristics of Distinctiveness

The Characteristics of Distinctiveness determine the degree of significance of a place. once the significance is established from the National Estate Criteria. The place must have characteristics which are rare, early in time, influential within its type, endangered, particularly fine in exemplifying its type, particularly valuable for research or mark major stages or the climactic point for its type.

The Characteristics can be complemented with the Quality Value of Story To Tell which is a measure of relative significance (ch.2.2.2.1).

Characteristics Of Distinctiveness implements the Quality Values of Rarity, Research and Technical Interest.

Methods to Assess a Place

Two methods for the assessment of the significance of a place are in Table 2.3 and Table 2.5.

Table 2.3, the method of National Estate, uses the Australian Heritage Commission's National Estate Criteria and the Characteristics of Distinctiveness. The National Estate Criteria implement the Quality Values of Aesthetic Quality, Associational Links, High Achievement, Rarity, Representativeness and Story To Tell.

Table 2.5, the Method of Historic Theme, assesses the significance of individual buildings once an historic theme is established. In Table 2.5, there are no explicit criteria as there are in Table 2.3. The method implements the Quality Value of Historic Theme.

Townscape Value

Townscape Value of a place includes a consideration of landmarks, location, unity and use.

Townscape Value implements the Quality Values of Clarity Of Purpose, Size and Size/Magnificence, as does Landmark.

2.6.3 Principles and Methods in Conservation

Principle of Authenticity :

(1) modern materials can be used where a modern element has been introduced ; new material should not be faked to look like old material,

(2) the appearance of a new building should not lead to it being interpreted as an old building,

(3) change can occur provided it does not cause damage to the evidence of previous changes,

(4) signs do not have to imitate old styles of lettering or graphics.(ch.2.3.5.2).

The Principle Of Authenticity implements the Quality Values in the Authenticity Group.

Principle of Contrast.

(1) With a complete understanding of an area, the unity rules can be broken, but one at a time. Extreme contrasts in scale can be dramatic provided the other unities are observed.

(2) Retain and renovate good old buildings, often by adaptive reuse, and yet provide for the inclusion of new architecture and new uses.

(3) In a new building, an inviting public nature may be more important than explicit links to the past.(ch.2.3.5.2).

The Principle Of Contrast implements the Quality Values of Diversity, Size, Size/Magnificence and Special Features. The Principle of Contrast is expanded later in Chapter 3.8 after the development of a Model of Environmental Assessment.

Principle Of Relatedness

In order to preserve the architectural elements found in the old buildings and to ensure that new construction will blend reasonably well with the existing buildings, the characteristics of a new building in an historic area should be related to the characteristics in existing historic buildings by,

(1) incorporating visual characteristics in new buildings that are similar to the congruent characteristics in the surrounding assembly of existing historic buildings,

(2) not dominating historic buildings, for example in relation to height and setback.(2.3.4).

The Principle Of Relatedness implements the Quality Values of Aesthetic Quality, Representativeness and Representative Of Type.

Method Of Line Procession

To obtain unity in architectural detail in a heritage area, the architectural features in a new building should be sized and located on the building so that buildings with a great variety of height, width, form, colour, and roofline are linked and united to a visual whole by a continuum or a procession of imaginary lines joining the edges of similar architectural features and street detail, such as windows, roof gables and street paving.(2.3.3.3).

2.7 Synthesis Of Values, Principles and Methods

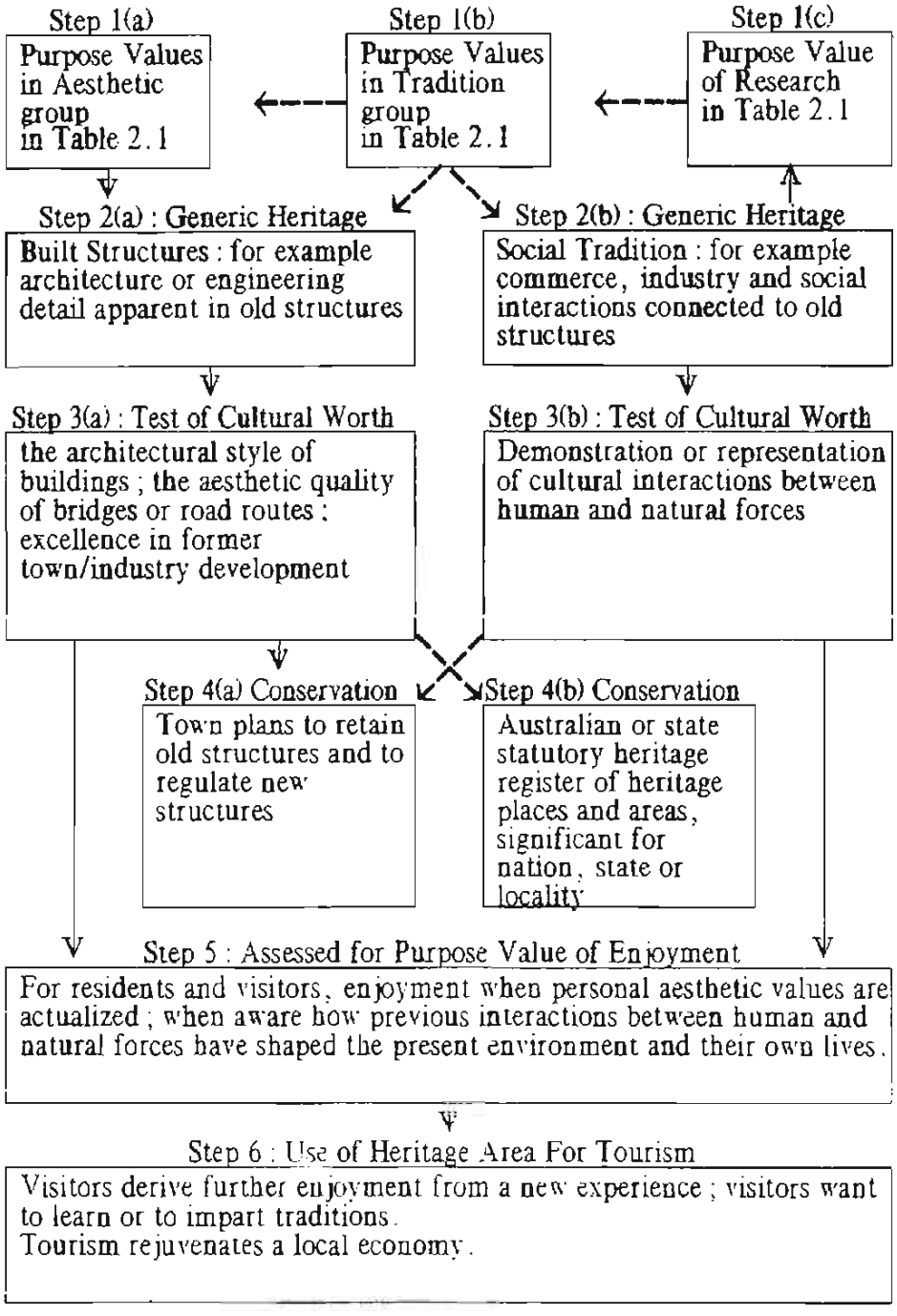
2.7.1 Aim

The aim in Chapter 2.7 is to link or synthesise the values, concepts, principles and methods that were listed in Table 2.9, and stated in Tables 2.1 and 2.2 and Chapter 2.6.2, as if they were being used to assess a heritage area. The gaps that are found in the linkages are pointers to the additional research that is needed in Chapter 3 to complete the method to assess an area.

The conclusion was made in Chapter 1.2 that a built heritage area can have two broad meanings attached to it : it can mean either the explicit old architectural characteristics of the built structures, or the beliefs, customs or traditions that were and continue to be based in the group of built structures. From the standpoint of these two broad meanings of heritage, conservationists talk about theme parks, architectural style and continuity in style, immigrant farming areas, industry, wharves, mining settlements, town centres, and community traditions that manifest higher cultural values such as liberty and social advancement. The two broad meanings of heritage are here termed two generic forms of heritage.

Table 2.10 provides the steps in the synthesis to replicate the assessment, conservation and enjoyment of an area that has the two generic forms of heritage.

TABLE 2.10 : CONTEXT FOR SYNTHESIS OF VALUES, PRINCIPLES and METHODS



Scheme for Synthesis

The scheme begins with the Purpose Values, except those in the Enjoyment Group, and follows with the two generic forms of heritage in Step 2 that illustrate the form in which the Purpose Values are implemented. In Step 3 the heritage area is assessed by the Quality Values, principles and methods and, if significant, its future condition is regulated in Step 4. Individual places of state or national significance may be protected through a statutory heritage register. Once the heritage in old structures is known in Step 3, the area can be assessed and interpreted for public enjoyment in Step 5 and promoted for visitation and local economic benefit in Step 6.

The Purpose Values in the Enjoyment Group appear only at Step 5 because quality in the heritage area, and knowledge of the quality, are expected to be necessary preconditions for enjoyment. This is the enjoyment that people have when they see their values in effect in their environment. A positive assessment for the purpose of aesthetics or tradition in Step 3 does not necessarily imply the area will be enjoyed by visitors. If conservation is also meant to attract visitors, the tourists' values of quality in aesthetics and tradition should therefore be included in Step 3. Visitors can use a heritage area to impart or to learn traditions. Consequently, the secondary assessment of a heritage area for visitors' use is made in Step 5, using the two Criteria of Enjoyment and Tradition for Visitors and the Principle of Visitation.

2.7.2 Synthesis For Assessments Of A Heritage Area

The synthesis below links the Purpose Values in Table 2.1 and the Quality Values in Table 2.2 to the concepts, principles and methods for assessments in Chapter 2.6.2. The linking follows the format in Table 2.10 and it is completed under the headings of the four groups of Purpose Values, namely Aesthetic, Tradition, Research and Enjoyment.

2.7.2.1 Purpose Value Group - Aesthetic

There may be a need to assess an area for the two Purpose Values of Aesthetic Enjoyment and Aesthetic Ideal where the aesthetic characteristics are either architectural or non-architectural details.

In relation to an assessment of architectural detail for a Purpose Value of Aesthetic Enjoyment or Aesthetic Ideal, the data can be categorised with the two concepts of Area Architectural Character and Landmark to identify points of similarity and contrast. The Criterion of Area Architectural Quality tests the heritage area for continuity and contrast. The Principle Of Historic Precinct is a check that the area communicates continuity and change in the architectural design or fashions of buildings or other structures in the area. No more extensive method of assessment is needed to implement the Purpose Values of Aesthetic Ideals or Aesthetic Enjoyment in relation to architectural interests in a heritage area.

Industrial, mining and transport areas are examples where the visual aesthetic characteristics may be non-architectural in

nature. In an assessment of such areas, for the Purpose Values of Aesthetic Enjoyment and Aesthetic Ideal, the Principle Of Evidence helps to select only the relevant data for the assessment, the concept of Landmark helps to categorize some of the data, and the Quality Values in the Aesthetics Group are broad enough for a non-architectural assessment. However, the thesis has not developed a criterion to implement these quality values for the purpose of non-architectural aesthetics or to give a spatial dimension to the non-architectural aesthetic quality of an area. Such a criterion, if it was available, would complement the Criterion of Area Architectural Quality. Consequently, the method of assessment to this point is necessary but not sufficient to make an assessment for a non-architectural aesthetic purpose.

2.7.2.2 Purpose Value Group - Tradition

The Purpose Values in the Tradition Group, in Step 1(b) in Table 2.10, can have a focus on buildings in Step 2(b) or a focus on social tradition in Step 2(b).

There are five Purpose Values from the Tradition Group that have a focus on buildings. They are Education In Tradition (in architectural tradition), Education Of Society (in historic architectural styles), Promotion Of Tradition (architectural skills), Reminder Of Tradition (architectural) or Tradition Of Community Values (architectural community). The concept of Area Architectural Character, the concept of Landmark, the criterion of Area Architectural Quality, the Quality Values in the Aesthetic Group in Table 2.2 and the Principle Of Historic

Precinct are sufficient to assess an historic area for any one of the five preceding purposes with a focus on architectural tradition.

To assess a heritage area for a purpose of social tradition, the Principle Of Historic Precinct traces continuity in the relevant attribute of the tradition, the concept of Landmark can identify places that mark significant physical or social developments in the formation of traditions, and the Quality Value Groups of Achievement, Aesthetic, Associational Links, Authenticity, Representativeness and Story are general indicators of quality to use. However, there is no explicit criterion or spatial method, apart from the idea of continuity in the Principle Of Historic Precinct, to assess an area for the purpose of social tradition, and a method has not been developed to show how a heritage area of old buildings can be assessed to be Authentic in History, to have a Clarity of Purpose or to tell a Great Human Story.

2.7.2.3 Purpose Value Group - Research

The Purpose Value of Research is to identify "the way life was" in terms of traditions or social interactions in a heritage area. In the scheme in Table 2.10, Research is a 'refresher' of what is known of traditions and therefore ancillary to the Tradition Group of Purpose Values. The Principle Of Evidence is the main principle in the assessment of an area for the purpose of research.

There is no explicit method or criterion to assess whether an historic area can provide research opportunities, and this thesis will not attempt to find a method or a criterion.

2.7.2.4 Purpose Value Group - Enjoyment

The Purpose Values of Enjoyment and Entertainment involve both generic forms of heritage in Step 2(a) and 2(b) in Table 2.10. The residents and visitors can gain enjoyment and entertainment from the heritage area when they understand with some certainty how the buildings connect the present and an earlier time, when they see how the area actualizes or promotes their values of aesthetics or tradition, and when the visual aesthetic qualities of structures or stories about past ways of life satisfy their curiosity.

A prior assessment of an area in Steps 3(a) or 3(b) is necessary before the Criterion of Enjoyment for Visitors, the Criterion of Tradition for Visitors or the Principle of Visitation can be used.

2.7.2.5 Assessment of Individual Places

An assessment of a heritage area must identify the individual places that are significant in the cultural value of the area. The Method of Historic Theme in Table 2.5 can be used, with the Principle Of Evidence, the concepts of Townscape Value and Landmark and the Quality Values in the Authenticity Group to make an assessment of a place. In Table 2.3, the architectural aesthetic significance of a place can be obtained by using the criterion of Architectural Aesthetic of a Place and the concepts of Characteristics of Distinctiveness, Townscape Value and Landmark. The documentation of the significance of a place includes Dimensions of Significance and the descriptors in Chenhall's (1978) Lexicon.

2.7.3 Conclusions

This chapter first constructed the Purpose Values and Quality Values in Tables 2.1 and 2.2 to answer the first research question. They are not an exclusive list of cultural values because most come from the professional and institutional interests in heritage conservation. Specific communities may have different heritage values, but it is likely that the Purpose Values and Quality Values have a trans-cultural application, subject to detailed interpretation in the community.

The concepts in Chapter 2.6.2 and Table 2.9 partly answer the second research question, which asked for principles and methods to use to explain the heritage in an area of old buildings and to differentiate the area from its surroundings. They are parsimonious but limited indicators of the complexity in the issues they address. They have sufficient scope to assess an area for a Purpose Value of Aesthetics related to architectural characteristics, but are not sufficient for other assessments (ch.2.7.2.1).

The method of assessment must be improved structurally and substantively for three reasons:

First, the concepts are not sufficient to assess heritage areas in mining towns, industrial areas, transport areas, farming areas or other areas for a Purpose Value of Aesthetics or Tradition that is not related to architectural interests, and they do not incorporate the non-built elements of an area.

Second, the factors of location and use in the concept of

Townscape Value, which evaluates the contribution of an individual place to its surroundings, are not incorporated in an assessment procedure.

Third, neither Table 2.3 nor Table 2.5 can be generalized to assess a heritage area. The approach in Table 2.3 cannot explain the setting consideration in the Concept of Architectural Aesthetic Significance of a Place (ch.2.3.6.3) which takes in the surrounding environment and asks whether the place is compatible with, and complements, its surroundings. Table 2.5 requires a prior established historic theme based on occupation and use of the heritage area.

This Chapter has produced tools of analysis to assess an historic area and to assess an historic place but there is no method to draw these tools together in a coherent environmental framework to assess and to explain an historic area as an environmental unit, which was called for in Chapter 1.2.4.

Factors In A Spatial Explanation Of Heritage

The factors that determine a desirable or satisfactory spatial arrangement in a heritage area were not found in the literature, except for factors in the Criterion Of Area Architectural Quality and the Principle Of Historic Precinct.

The Criterion of Area Architectural Quality has two factors which are 'unity across the area' and 'contrast in scale'. The Principle Of Historic Precincts has four factors of 'original purpose of the area, continuity, change and themes'. The factor of 'purpose of the area' implies a unity of purpose. The factor of

'continuity' implies a joining to form unity. The factor of 'theme' implies a unity in an aspect that spreads across the area. The factor of 'change' implies a contrast or at least variety. The conclusion is that the Principle Of Historic Precincts also requires unity and contrast through the historic area. Both the Criterion of Area Architectural Quality and the Principle Of Historic Precincts appear to require a framework of unity and contrast.

It is possible that the two factors of unity and contrast are sufficient to decide whether a spatial arrangement is satisfactory for each purpose of conservation in Table 2.1, sufficient to demonstrate social interaction (Principle Of Historic Precinct) and sufficient to understand spatial arrangements for activities such as industry, mining or transport. The conclusion is that the factors of unity and contrast appear to be part of a general framework or theoretical context to coordinate at least some of the concepts, principles, quality values and criteria to make an assessment of an historic area and to delineate its boundaries.

Further Work In Assessment

A general framework is needed in which to assess the physical environment for the purpose of Aesthetics and Tradition in the two generic forms of heritage which are built structures and cultural traditions associated with built structures. In Chapter 3 a Model Of Environmental Assessment is developed to explain how assessments are made of an environment. The formation of the Model draws on literature from geography, landscape analysis and perception studies.

3. MODEL OF ENVIRONMENTAL ASSESSMENT

3.1 Aim and Method

3.1.1 Aim

This Chapter completes the answer to the second research question :

(2) What principles and methods exist or can be developed to explain the concept of heritage in an area of old buildings and to differentiate the area from its surroundings ?

by overcoming the three deficiencies in the method of assessment that were identified in Chapter 2.7.3.

A model of environmental assessment (O'Sullivan 1996b) was constructed (Table 3.5) to explain, in an objective sense rather than a normative sense, how an environment, natural or built, is thought to be assessed. The model coordinates the cultural values, concepts, principles and methods in Chapter 2.6 and completes the method to assess a built heritage area.

3.1.2 Method to Develop a Model

The research in this chapter was kept independent of the findings in Chapter 2 by researching literature from fields other than heritage and by keeping in mind the question :

What meaning can be attached to a group of old buildings ?

as a way to differentiate a heritage area from its contiguous or nearby non-historic environment.

A deductive process to develop a model was not possible

because there was no preliminary idea of the structure of a model. In a process similar to that in Chapter 2, the propositions in the model were constructed as generalizations from key statements by architects, psychologists, and geographers about perception of the environment. This was a necessary but tedious and long process. The process was summarised in Table 3.1 and the types of key statements and their literature sources were tabulated in Table 3.1A.

In Chapters 3.2 and 3.3, the main generalizations were induced from the literature and they were gathered in Chapter 3.4 to form the core of the model which describes the procedure to assess an environment, whether it be built or natural. The core model was then enlarged in Chapters 3.5 and 3.6 with two ancillary sub-models of Aesthetics and Time which relate to the two generic forms of built heritage (ch.2.7.1). The model could be enlarged further with more sub-models for other purposes. In Chapter 3.7, an analysis of the model showed it has a logical limitation if the assessor has two competing needs to be satisfied by the environment, one for an interest in heritage and the other for an interest that competes with heritage. Chapter 3.8 is a synopsis of the model.

In Chapter 4, the model was used with the concepts in Chapter 2 to assess an historic area in Charters Towers. The effect of the limitation in the model was overcome by developing an economic/environmental hypothesis in Chapters 5 that was used in a contingent valuation survey of households in Chapter 6.

TABLE 3.1 : OUTLINE OF CHAPTER 3

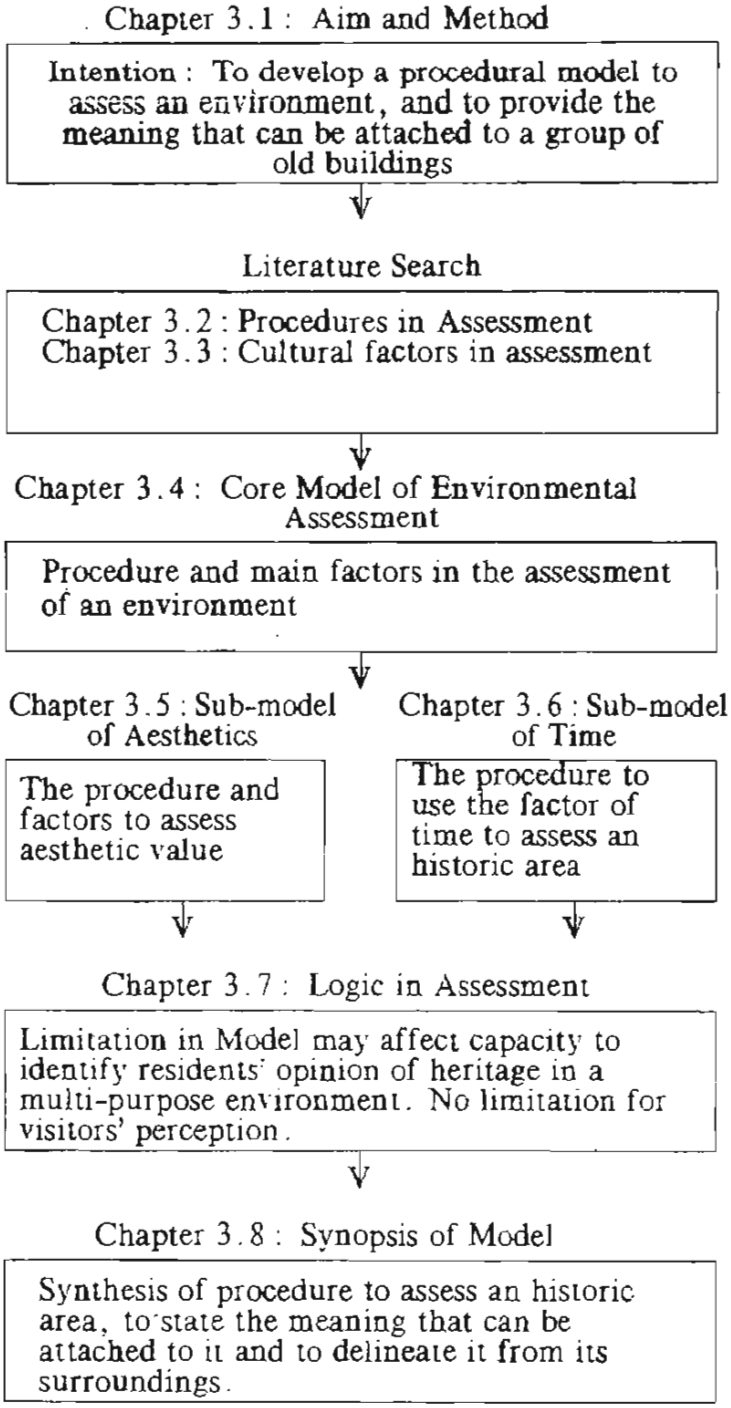


TABLE 3.1A : IDEAS FOR SPATIAL ASSESSMENT

Idea, Principle	Source
Environment	Ericksen (1980, p. 2)
Available theory to assess an environment	Warren (1978, p. 16) ; Tuan (1974, p. 3 ; 1977, p. v) ; Bourassa(1991, p. xiii) ; McCann(1992)
Perception	Ittelson (1973, p. 4) ; Warren (1978, vol. 10, p. 13)
Meaning of Environment	Rapoport (1982, p. 13)
Connection of perception and meaning	Beck (1967, p. 21) ; Warren (1978) ; Simonds (1983)
Connection of meaning with function or need	Rapoport (1982, pp. 15, 19) ; Beck (1967, p. 20) ; Tuan (1974, p. 246) ; Tuan (1977, p. 178) ; Sonnenfeld (1967, p. 51)
Whereabouts, orientation, location	Appleyard, Lynch and Meyer (1967, pp. 79-80) ; Chalmers (1980, p. 34) ; Tilden (1978)
Preference for entirely natural or entirely cultural	Chalmers (1980, p. 36) ; Tuan (1974, pp. 63, 248) ; Sonnenfeld (1967, p. 51)
Size of environmental unit	Tuan (1974, p. 101) ; Child (1978, p. 124)
Experience as it affects expectations	Kates (1976, p. 68) ; Day (1992) ; Simonds (1983, p. 195) ; Tilden (1978, p. 12)
Two Stages in Assessment	Ittelson (1973, pp. 16-17) ; Chalmers (1980) ; Rapoport (1982, p. 14) ; Osgood (1969, p. 21) ; Bourassa (1991, p. 63) ; Cook (1994, pp. 7-8) ; Appleyard *et al.* (1967)
Spatial comprehension	Ittelson (1973, pp. 12-13) ; Black (1989, p. 420) ; Tuan (1974, pp. 48-49, 239)
Cultural influences on assessments	Rapoport (1983, pp. 15-16, 28) ; Tuan (1977, p. 183) ; Lowenthal (1967, p. 1) ; Beck (1967, p. 18) ; Bourassa (1991, p. 27) ; Sonnenfeld (1967)
Two levels of spatial organization	Rapoport (1982, pp. 28, 30) ; Tuan (1974, pp. 217, 223, 224)
Assessment of aesthetic quality (pleasure)	Simonds (1983, p. 20) ; Smith (1983, pp. 31-32) ; Stiny (1978, pp. 146, 147) ; Child (1978, p. 118) ; Hooper (1978, p. 158) ; Bourassa (1991, pp. 90, 143) ; Chalmers (1980, p. 32) ; Moggeridge (1983, p. 67)
Time a dimension in an assessment	Kern (1983, p. 40, 52, 218, 293-294) ; Stiny (1978) ; Tilden (1978, p. 12) ; Davison (1988) ; Tuan (1977, p. 174)

3.2 Theory and Key Factors in Assessment

3.2.1 Theory To Assess An Environment

Ericksen (1980, p.2) defined the environment :

> to include everything that envelops an individual and which influences his behaviour whether or not he is aware of it. This total environment consists of everything physical and cultural, tangible and intangible, and within which the individual or groups of individuals operate.

In such a wide field of study it is not surprising that the literature indicates there is no theory on which to make a working assessment of the environment. An extensive body of literature on the subject has been produced in the last twenty years but recent work such as Bourassa (1991) indicates the matter is very complex and there are a number of approaches that can be taken.

Results of the first part of the literature search below briefly establish there has been and still is a lack of theory of environmental assessment, and then discusses two terms that arise in the literature, perception and meaning.

Availability Of Theory

With regard to the available theory, Warren (1978) stated :

> We perceive so that we may act, and we act so that we may perceive. Yet little is known about this linkage between perception and action.(p.16).

Tuan (1974) wrote of his book on environmental perception :

> No single all embracing concept guides my effort. The best that I can do is to structure the theme of topophilia with a limited set of concepts.(p.3).

and later Tuan (1977) in Space & Place referred to his earlier publication :

> I could not at that time find an overarching theme or concept with which to structure my heterogeneous material.
> The present book is an attempt to achieve a more cohesive statement. I try to develop my material from a single perspective - namely, that of experience.(p.v).

The difficulty in explaining perceptions of the environment was noted by Ittelson (1973, p. 3) :

> There is nothing more obvious than the environment, and with few exceptions psychologists have not possessed minds uncommon enough to undertake its study.

While the criticism by Ittelson is no longer true, Bourassa (1991) was able to claim :

> Among those who have investigated the matter, there is a clear consensus that theory has been neglected in landscape aesthetics. (p. xiii).

A similar claim about cultural landscapes was quoted from McCann (1992) in Chapter 1.2.1.

Reasons for Lack of Theory

There appear to be two reasons for the lack of theory. The first is that it is hard to arrange a controlled environment for experiments to develop and test theory. The second is the extreme variability in the ability of people in experiments to make mental pictures of their environment or to express their mental pictures in words. The first reason comes from Ittelson (1973) who wrote of experimental psychology :

> The overwhelming bulk of perception research has been carried out in the context of object perception, rather than environment perception, with the findings of the former being the basis for understanding the latter. (p. 3).
> The distinction between object and environment is crucial. Objects require subjects - - - In contrast, one cannot be a subject of an environment, one can only be a participant. The very distinction between self and non-self breaks down : the environment surrounds, enfolds, engulfs and no thing and no-one can be isolated and identified as standing outside of, and apart from, it. (pp. 12-13).

Ittelson (1973) discussed the advantages and disadvantages of laboratory and field studies made to understand environmental perception, and regretted that :

> Unfortunately, experimental environments for the study of environmental perception have so far been almost nonexistent(p. 16).

These comments indicate that studies of environmental perception

cannot be carried out in isolation from the environment, for example in laboratory experiments. The comments are consistent with Black's (1989) conclusion that photographs of historic buildings, on their own, are not suitable material to study preferences between precincts :

> There is a need to confirm the preferences elicited from the five precincts using the map and sequence of slides by on-site evaluation.(p.420).

The second reason, the difficulty in getting people to express their impressions of the environment, is based on Tuan's (1974) claim : "Consider spatial visualization. It is a capacity that varies enormously amongst people"(p.48). From a discussion of research findings, he concluded that :

> The ability to visualize spatially and to orient oneself in space also seems to be associated with mathematical competence on the one hand and with inarticulateness of speech on the other.(p.48).
> The forceful and precise articulation of environmental attitudes requires high verbal skills. Literature rather than social science surveys provides us with the detailed and finely shaded information on how human individuals perceive their worlds.(p.49).
> Verbal expressions of attitudes are seldom very revealing in themselves.(p.239).

The comments from Ittelson (1973) and Tuan (1974) are 20 years old but the more recent literature from Black (1989), Bourassa (1991) and McCann (1992) did not indicate major progress in the development of a spatial theory of perception or assessment. However, there are strong positive conclusions in the literature about the environmental factors in an assessment and the process in an assessment which are discussed in Chapter 3.2.2 and 3.2.3 respectively, after the discussion below of some key points in an assessment.

Perception and Meaning

The phrase "perception of the environment" occurs frequently in literature which deals with assessments of the environment and

at this stage in the study the term "perception" should be clarified and compared with "meaning". Ittelson 1973) said :

> the reception and processing of information from the environment constitutes the area of study designated as perception.(p.4).

(Warren, 1978, Vol.10) puts perception in an objective and physical context :

> A perceptual system is thus a biological organization for the purpose of extracting physically existing information about the environment.(p.13).

Rapoport (1982) in his text The Meaning Of The Built Environment, came to the conclusion : "It appears that people react to environments in terms of the meaning the environments have for them"(p.13). When this conclusion is considered alongside Warren's comment above that "We perceive so that we may act and we act so that we may perceive" the inference can be made that physical information in the environment is perceived and given a meaning which determines how people act or react to their environment. The inference is consistent with Beck's (1967,p.21) comment "Indeed meaning and perception are inseparable". This inference does not explain why some things are perceived and not others, why an environment is given one meaning and not another, or indicate whether an environment is likely to have a similar meaning amongst people in a group.

However, the conclusion can be drawn from the above comments by Ittelson, Warren, Beck and Rapoport that the literature on perception is relevant to the meaning that can be attached to an environment. The meaning of an environment or a part of the environment is of everyday concern in both urban and rural life.

In urban areas the pattern of settlement is arranged into areas for broad classes of uses such as residential, commercial,

sporting, open or natural space, etc., and each of these areas takes on a meaning. A group of historic buildings may be one more ordered spatial arrangement with a meaning that we recognize in our environment. There is a conclusion in Chapter 1.2.6 that a built heritage area can have two broad meanings which are the built structures with their explicit old architectural characteristics or the beliefs, customs or traditions that were and continue to be based in the group of built structures. At this stage of the research the clearest indication of the meaning of an environment is its perceived function. This conclusion is in agreement with Rapoport's (1982) comment :

> This suggests that meaning is not something apart from function, but is itself a most important aspect of function.(p.15).

The function of an environment is a result of a need to be satisfied by an environment. Comments below by Beck (1967) and Tuan (1974,1977) indicate that the satisfaction of needs is fundamental to the meaning that can be attached to an environment.

> Meaning is derived from a satisfaction of needs, needs which have spatial qualities (Beck 1967,p.20).
> The perception and environmental judgments of natives and visitors show little overlap because their experience and purpose have little in common (Tuan, 1974,p.246).
> Identity of place is achieved by dramatizing the aspirations, needs, and functional rhythms of personal and group life (Tuan, 1977,p.178).

The conclusions to be drawn are that perception and meaning are the same, and meaning is a part of function which in turn depends directly on need.

3.2.2 Environmental Factors in Assessment

3.2.2.1 Whereabouts Or Location

Chalmers (1980, p. 34) reviewed the efforts of R. and S. Kaplan and their colleagues to develop a model to predict environmental preference :

> The Kaplans argue that preference is related to the acquisition of information present in the environment, which enables the individual to make accurate inferences about his or her whereabouts.
> To summarize, those properties of the environment which once satisfied primitive informational needs, now serve as determinants of environmental preference.(p.35).

The importance of information of 'whereabouts' is consistent with the observations of Appleyard, Lynch and Myer (1967) who considered the impressions that a car driver has and the structured spatial arrangements which improve the driving experience :

> One of the most important visual sensations is the relation of scale between a large environment and the observer ;
> The automobile with its speed and personal control begins to reduce the disparity in scale between man and the city ;
> At the next level of organization, the driver is engaged in orienting himself to the environment, in building up some image of it.
> This is partly a practical, partly an esthetic activity.
> There is positive pleasure in being able to recognize the urban scene and fit it together.(p.79).
> Finally the driver seeks a meaning in his environment. He relates the visible objects to the stock of ideas in his mind. Such visual clues as the sight of an activity are essential to comprehension of the city.
> The most powerful experience occurs when space, motion, orientation, and meaning reinforce each other — when a landmark that is rooted in community history is the visible goal of a journey -.(p.80).

There are many points of environmental perception raised here : scale as it affects personal power, orientation, expectations or experience, and fitting things together which culminate in an image, a meaning and pleasure. A similar dependence on orientation before a meaning can be attributed to an environment was raised by Simonds (1983) :

> As we move through a space or a complex of spaces, we subconsciously

> remember that which we have passed or sensed. We thus orient backward in time and space, as well as forward, and find that each orientation gives meaning to the other and to all.(p.205).

The notion from Appleyard *et al*. (1967) of personal power was also raised by Tilden (1978) who said visitors to an historic environment can have a dream-like association with the great people and events of the past. Tilden (1978) also considered that a positive certainty about the environment induces pleasure (ch.2.2.7).

3.2.2.2 Natural Scenes

Chalmers (1980) said Kaplans' research showed that :

> preference ratings for natural scenes are significantly higher than those for man-made or urban scenes.
> scenes combining natural and man-made elements are consistently less preferred than both completely natural or completely man-made scenes.(p.36).

The preference for singularly natural or singularly man-made environments reflects the importance of the Quality Value of Clarity Of Purpose in Table 2.2.

There is general agreement that the natural environment is seen and understood in a similar way by people across all cultures. Tuan (1974) provides a neat two-way categorization of perceptions, cultural and natural, to explain assessments of an environment :

> Insofar as symbols depend on unique events they must differ from individual to individual and from culture to culture. Insofar as they originate in experiences shared by the bulk of mankind they have a worldwide character. Natural phenomena such as sky, earth, water, rock and vegetation are interpreted in similar ways by different peoples.(p.145).

Tuan (1974, pp.141-145) found that traditional societies expressed their attitudes to the environment in a combination "of ordinary and ritual speech"(p.141) in which they related the world's elemental substances such as earth, water and fire to

cultural descriptors including colours, directions, the seasons, and some cultural or personality traits. He expressed the opinion that "The modern world, on the other hand, aspires to be transparent and literal"(p.141). This aspiration may be a result of modern formal education which values research and rational expression as a basis for understanding the environment. Tuan (1974) saw a similar gap in attitudes in America since the middle of the eighteenth century :

> A gap in environmental evaluation opened and continued to grow between the farmer who struggled against the wilderness and the cultured gentleman who appraised it as scenery.(p.63).

This difference in perception of the countryside was noticed in Chapter 2.2.5 in the different attitudes of Morton (1884-86/1978), a pioneer, pastoralist and explorer and Barrett (1918) who was a doctor and civic idealist.

3.2.2.3 Ideal Images

There has been something of a reversal of attitudes towards city and wilderness - where once the city was a refuge from the shortcomings and dangers of the wilderness, now the city is regarded as a jungle and the wilderness as peaceful. Tuan (1974) claimed :

> Human beings have persistently searched for the ideal environment. How it looks varies from one culture to another but in essence it seems to draw on two antipodal images : the garden of innocence and the cosmos - seeking a point of equilibrium that is not of this world.(p.248).

The gap in attitudes towards the environment may be explained by the different needs that the opposed groups have of the environment, to provide sustenance or to provide beauty, but not with one need impinging on the other.

3.2.2.4 Attractiveness

In a study of the preferences of local native and immigrant communities in the Arctic for landscape scenes, presented to

them on film slides. Sonnenfeld (1967) found :

> Most of the choices of both natives and nonnatives can be placed within certain categories of response.
> Choices often indicate not only what is attractive in landscape, but what appears deficient in the local or home environment.
> There are also preferences for the exotic, the alien, the landscape which appears attractive simply because it is different. Youngsters, field scientists, and nonnatives generally, who are free from subsistence concerns, expectably make such choices.(p.51).

Sonnenfeld's (1967) comments indicate that the two main factors in landscape preference are subsistence and attractiveness. Attractiveness also arises from beauty.

3.2.2.5 Size of Environmental Unit

Some early pastoralists in Australia were able to see meaning in large areas of land covering distances of more than a thousand kilometres in which some parts had capabilities for spatial and temporal use that were different to the capabilities of other parts. Those insights sparked plans for the strategic use of the land at certain times and in certain directions. The meaning of an environment at this scale seems however to be comprehensible to only a few people through their own senses and intellect.

It seems obvious that perception of an environment is limited by the size of the environment. The factors that determine that size remain obscure. Tuan (1974) said :

> topophilia rings false when it is claimed for a large territory. A compact size scaled down to man's biologic needs and sense-bound capacities seems necessary. In addition, a people can more readily identify with an area if it appears to be a natural unit.(p.101).

The definition of a "natural unit" in the built environment may depend on the purpose and the homogeneity of purpose or meaning in the area as much as on natural physical boundaries. For instance, a residential area may be located around a hill or ridge and be outward looking whereas a market is likely to be at a low level of land and be inward looking to provide a focus on its

internal facility. A natural unit for an historic area may depend on the original purpose of the historic area.

The size of a "natural unit" for each person will probably depend on that person's ability to process the information offered by the environment. Child (1978) offered this principle from information theory :

> For a given kind of stimulus, a person will prefer a degree of variability that is near the limit of his processing ability.(p.124).

The conclusion is that the size of an environment may limit a person's capacity to attach meaning to it or to identify with it as a natural unit, which appears to be the same thing, but the person would try to develop a meaning for the environment or try to comprehend it as a natural unit even if that required effort.

3.2.2.6 Range Of Perception

Kates (1976), in a study of residents' perception of flooding and coastal storm hazards at coastal settlements, came to the conclusion that :

> Evidence from flood plains suggested that variations of all sorts - in experience, in interpretation, in future flood expectations, and in the perception and adoption of hazard-reducing actions - were greatest where floods occurred often enough to be common but not so often as to make their occurrence certain. The range of individual perceptions fell off in areas of frequent floods or very infrequent floods, where the absence or the occurrence of events seemed immediately and overwhelmingly inexplicable.(p.68).

Kates' findings did not require spatial perceptions from the public, but the study illustrates the importance of experience on expectations of the environment and it shows that people will fill in the voids of information with their own ideas. This conclusion is consistent with the conclusion in Chapter 2.3.8.3 that the use of the Principle Of Relatedness (new similar to old) in town plans may lead people to believe that new buildings are old and it is consistent with the finding of public misinterpretation of heritage

in Geiger (1991) (ch.1.2.5) and in Day's (1992) study (ch.2.3.5.2).

3.2.2.7 Conclusions

The meaning that can be attributed to an environment includes an explanation of spatial relationships such as the linkages and orientations of elements in the environment and the forces unifying the elements in the satisfaction of the need.

There is a pleasurable experience when fitting things together or finding attractiveness in the appearance of the environment which is another meaning that can be attached to an environment.

People more readily identify with an area if it appears to be a "natural unit", though not necessarily of natural phenomena.

Combinations of natural and man made elements are less preferred than completely natural or completely man made scenes.

Consistency in the assessments made by individuals, for the satisfaction of a given need, depends on consistency in the information in the environment (ch.3.2.2.6). There is a preference for environments that provide a degree of variability of information that is near the limit of processing capability (ch.3.2.2.5), which may be due to a desire for as wide a range of opportunities to satisfy the need as is possible. Information is used to determine "whereabouts" which is the same as location and a factor in preference.

3.2.3 Process in Assessment

Despite the claims of a lack of theory, the literature indicates there is an ordered process in an assessment which is discussed below.

Ittelson (1973) said geographers, architects, and others outside the field of psychology have studied mental maps of large environments, characteristics of awareness and the analysis of meanings attributed to specific environmental contexts, and these studies indicate :

> people seem to organize perceptual responses to the environment around five identifiable and inter-related levels of analysis. These are affect, orientation, categorization, systematization, and manipulation.
> The first level of response is affective. The direct emotional impact of the situation, perhaps largely a global response to the ambience ;
> It sets the motivational tone and delimits the kinds of experiences one expects and seeks.
> The establishment of orientation within the environment is a second level of response.
> Generally the location of positive and negative features, including other people, result in an initial mapping of the situation which provides a base for more detailed exploration.
> Along with a satisfactory level of orientation, the process of developing categories for analysis and understanding is undertaken.(p.16).
> A fourth level in the process of environmental perception is the systematic analysis of relationships within the environment. - - - gradually brought into order and harmony.
> He learns both the kinds of interventions he can bring about and their consequences, - - - in relation to his own needs and purpose.(p.17).

At the first level, the affect or felt reaction to the environment appears not to be a consequence of the need to be satisfied in the environment that is noted by Ittelson in his fifth level. On its own, Ittelson's (1973) statement for the first level implies that people come to an environment without a purpose or a need. Ittelson's "motivation" appears to be a reaction rather than an intention and his need at the fifth level seems to be a need that arises as an opportunity to intervene as knowledge of the environment increases.

Without the concept of need as an agent that initiates the

process of perception. or an expectation that the environment will provide something specific, the inference is that people are perceiving information from their environment for no explicit purpose. There is a difficulty in making Ittelson's first step "affect, emotional impact, response to the ambience", an operational step in a study of perception unless it is read in conjunction with the fifth level. Ittelson does say the five levels are inter-related which implies they are not merely sequential.

The second level, orientation, is the same as "whereabouts" referred to by Chalmers (1980).

While Ittelson (1973) called "affect" a first level of analysis, Rapoport (1982) distinguishes between "affect" and analysis which he calls the second step :

> It can therefore be shown that people react to environments globally and affectively before they analyse them and evaluate them in more specific terms.(p.14).

Rapoport's second step, analysis, is consistent with Steps 2 to 4 in Ittelson's process. Rapoport seems to be suggesting that there are two levels of perception, one is "first impressions", and the second is based on reasoning.

Osgood (1969) argued that we respond to things, not for themselves but from something learned and instinctive, and react in ways that we cannot anticipate :

> Meaningful reactions may be just as involuntary as perceptions.(p.8).
> It may be that we will be forced to accept some conception of "unconscious" and "conscious" levels of perception or meaning.(p.21).

Bourassa (1991) summarised research findings which suggested :

> (1) there are dual perception systems involving both the uniquely human and the more primitive parts of the brain ; (2) the more primitive parts of the brain function on the basis of emotion rather than cognition ; (3) the primitive brain can respond to stimuli in the absence of cognitive awareness of those stimuli ; and (4), consequently, affective response to stimuli may under some circumstances occur separately from cognitive knowledge.(p.63).

More recently, Cook (1994) discussed his research into the conscious and unconscious knowledge that people have of their environment :

> Interestingly, the precise perception of the spatial layout of our surroundings which is evidenced by our accurate spatial behaviour is not available as a conscious representation even when we do attend to this layout.(p.7).
> But the pre-attentive representation is sufficiently good to enable non-attended salient events to attract our attention, and to enable us to shift attention efficiently between the items that interest us.(p.8).

A conclusion can be made from the above comments that an assessment is made in two stages :

(1) the unconscious, 'pre-attentive', global and affective assessment and

(2) the conscious, attended analytical assessment.

Two inferences, described below, are deduced from the literature about what is involved in the first stage of an assessment.

First Stage of Assessment - Global and Affective

The first inference from the literature is that the environment is manipulated (Ittelson, 1973) to satisfy a need (Tuan, 1974, 1977 ; Beck, 1967) and information is picked up to determine whether the environment can satisfy the need. Needs are both conscious and unconscious, as they are both immediate and latent (in holding). The unconscious or latent needs include needs that have been enculturated, such as an interest in old buildings. The notion of a latent need gives a plausible explanation for the global and affective response because the environment's context gives an immediate indication of whether the environment has good or bad prospects of satisfying the need.

The second inference is that perceptual learning and development (Warren, 1978) leads to memorized images of types of environments against which a particular environmental

experience is assessed, resulting in a global evaluation of the particular environment. These benchmark images may comprise unconscious values as to what the environment should be like, and the compliance or non-compliance of the environment with those images may result in an affective or emotional response.

The two factors of latent need and memorized images of a prototype or standard environment are plausible explanations for the first stage of an assessment, which is the global and affective response to the environment. The importance of memorized images is in line with Simonds' (1983) comment :

> The procedures developed by the U.S. Forest Service are particularly sound, easy to understand, and effective. They are based on the premise that visitors to the national forests have an image of what they expect to see and that, insofar as possible, this expectation should be fulfilled.(p.195).

Second Stage in Assessment - Analytical

The notion of a conscious and immediate need is a plausible explanation for the analytical stage in an assessment in which :

(1) information is selected if it is relevant to the need

(2) the assessor fills gaps in information and assessment with his or her own ideas and checks the capacity of the environment to satisfy the need

(3) the preferred size of an environment, for a particular need, is the area which is comprehended as a natural unit for the satisfaction of the need

(4) the assessor prefers a variety in the environment that is near the limit of the assessor's processing ability (ch.3.2.2.5).

3.2.4 Conclusion

The perception process has two stages. The first is the immediate and direct impression, an unconscious process, which gives a global and emotional response. The second stage, analysis of the environment, is a conscious process.

A factor in perception is the knowledge of location or whereabouts. A person's need that is to be satisfied in an environment is a factor in perception.

The assessment process includes an account of the assessor's need to be satisfied by the environment, but the way in which the assessment is made is not yet hypothesized. The assessor could be any person, a visitor, resident or heritage professional, each with possibly different needs.

3.3 Cultural Factors in an Assessment

The aim in this Chapter 3.3 is to show that cultural factors, including professional ideas, influence the way an assessor satisfies a personal need in an environment but they do not dominate that need. The role of cultural factors in an understanding of spatial levels of organization is then considered.

3.3.1 Professional Culture

The professional groups conserve a heritage from a built environment or a natural environment in different ways which reflect the different value systems, methods or working paradigms that are used in the training of each group. Their ways to assess and conserve a heritage are not always appreciated or understood by members of another group or the public as a whole.

Rapoport (1982) illustrated the difference between designer's meaning and user's meaning :

> designers and users are very different in their reactions to environments, their preferences, and so on, partly because their schemata vary. (pp. 15-16)

In Chapter 2 there were examples of different attitudes of substance towards heritage conservation between professional groups : (1) for architects it was fabric : (2) for archaeologists, it was research and past lifestyles ; (3) for preservationists of culture, it was tradition, and : (4) for interpreters, it was enjoyment, association with greatness, and personal experience.

A plausible explanation for a part of these differences is that each group of professionals has a different function to perform which arises from a different professional need to be satisfied in a heritage area.

Rapoport (1982) cautioned those who evaluated old sacred and

vernacular preliterate buildings in terms of aesthetic perceptions of the structures to remind themselves :

> the principal point is that historical high-style examples, as well as the preliterate examples - - -, must be evaluated in terms of the meanings they had for their designers and users at the time of their creation.(p.28)

His suggestion is consistent with Chenhall's (1978) Lexicon in Table 2.9 and it implies that extinct cultural forces may be part of an assessment if the assessor's professional culture does not overlook them.

The point being made is that each professional group has a need to conserve a heritage which is understood and conserved in different ways. However, professional culture changes by adapting to wider cultural influences in the same way that people alter their culture to satisfy their needs in their environment in the long term, as discussed below.

3.3.2 Cultural Adaptation To An Environment

Sonnenfeld's (1967) findings below support the earlier conclusion that the need to be satisfied by the environment is likely to dominate what is perceived, and hence determine the meaning that is given to the environment :

> Subsistence-oriented Eskimo choose environments similar to their native areas. As they become involved in wage labor, travel, see movies, come into contact with and are influenced by alien populations, their landscape preferences change. Non-subsistence features become more interesting and attractive.(p.51)

It seems that choices are based first on whether there is a need for subsistence, and if there is no need for subsistence from the environment, then choices are based on attractiveness.

Therefore, cultural background is an influence, in an economic sense, on whether there is a need for subsistence or attractiveness from an environment. Sonnenfeld (1967) also seems to say that cultural influences in the perception of the

environment are an adaptive process brought about merely by presence in the environment and the unavoidable interaction with who and what surrounds :

> Similarly, the choices of nonnatives become more consistent with those of natives as the local environment takes on more meaning for them.(p.51).

He is saying people adapt to some extent to an environment irrespective of their cultural background. The conclusion is consistent with the findings, discussed earlier, that people from different cultural backgrounds find similar meanings in natural environments, given that neither has a need for subsistence from the natural environment.

So two conclusions can be made. First, if they have the same needs people are likely to understand the natural environment in similar ways. Where they have different needs to be satisfied by a particular environment, their needs are likely to dominate what they perceive. Second, cultural influences are amenable to change by experience of the environment and so they are not determinants of perception but merely tools to assist in adaptation to the environment.

Tuan (1974, p.224) declared "The imageability of a city - - - does not necessarily improve much with experience", but later (1977) reconsidered :

> the 'feel' of a place takes longer to acquire. It is made up of experience, mostly fleeting and undramatic, repeated day after day and over the span of years.(p.183).

Tuan's comments reinforce the conclusion that assessments are not static events. They can change with experience in both satisfying needs in the environment and the attitudes of others towards the environment.

Lowenthal's (1967, p.1) statement that "subjective, often unconscious, and culturally dominated forces play a major role in

how we see the environment and act in it" does not negate a proposition that assessments are primarily based on satisfying a need, and influenced by cultural forces. As an example, where a household has a need to find a new home the usual first step is to assess suitable suburbs. The assessment is influenced by economic cultural forces, such as facilities and household income and non-economic cultural forces such as the style of homes in each suburb.

How people act may be based on culture but the purpose of an assessment and what people perceive in their environment may be identified better from a point of need. For example, people who are sight-seeing in a strange place may want to roam to learn more about the place but they will simultaneously look for cultural signs and act on those signs so as to fit in with the way others are acting. Beck (1967) explained how culture, experience, and response are inter-related :

> Perception of the environment requires man to interpret the physical and social components of his stimulus field. These transactions further lead to the establishment of group attitudes, beliefs, and values associated with various domains of the environmental field.(p.18).

Bourassa (1991) asserted :

> Different individuals and groups will see different meanings in the landscape and other aesthetic objects due to the differing symbolic systems they bring with them to those objects. In particular the insider will see things differently from the outsider. The insider will see things in terms of practical significance for everyday life, while the outsider will be largely unconcerned with or unaware of that level of symbolism.(p.27).

This is an example of a short term reaction by an outsider, which as Sonnenfeld (1967) pointed out, can later become more like that of the insider as the local environment takes on more meaning.

Rapoport (1982) argued :

> Physical elements - - - have meaning ; that is, they can be decoded if and when they match people's schemata.(p.15).
> meanings are in people, not in objects or things. However things do

elicit meanings.(p.19).

Here schemata means categories for understanding. Cook (1994) referred to the importance of "cues which enable the necessary stored information to be accessed"(p.8), as did Rapoport (1982) and Appleyard *et al*. (1967). An inference is that the meaning to be attributed to an historic area can be drawn out, and visitors assisted in their interpretations, with :

> an explanation of what to look for ; a history of the area and how it functioned at different stages ; personalities and drama ; cues to look for in the structure and detail of elements in the area as explanations of past activities and cultural practices ; an explanation of how the area now fits with the wider environment and modern activities.

However, a positive meaning for a group of old buildings may not be accepted by people who have acquired a cultural understanding of old buildings as slums or ghettos. They may be opposed to an interpretation of old buildings as heritage because "signs which develop a certain meaning through direct training will readily elicit similar meanings but resist being associated with opposed meanings" (Osgood, 1969, p.18).

3.3.3 Culture, and Levels of Spatial Organization

Rapoport (1982) argued that cultural factors operate at two spatial levels of size and organization in the built environment. He claimed that at the level of regions and cities :

> Sociocultural schemata are the primary determinants of form even on those scales.
> In many traditional cultures sacred schemata and meanings are the most important ones, and cities in such cultures can be understood only in such terms. In other cultures health, recreation, 'humanism', egalitarianism, or material well-being may be the values expressed in schemata and hence are reflected in the organization of urban

environments.(p.28).

while at the suburban level :

> It is the meaning of the subtle differences within an accepted system that is important in communicating group identity, status, and other associational aspects of the environment while accepting the prevailing norms.(p.30).

Similarly, Tuan (1974,p.223) identified two levels in city image :

> On the abstract level the city may be identified with a boastful simple epithet calling attention to a single trait - - - a metaphor for man's highest achievements.(p.223).

and on the second level, "the intimately experienced neighbourhood"(p.224) in which :

> Satisfaction with neighbourhood depends more on satisfaction with neighbours - their friendliness and respectability - than on the physical characteristics of the residential area.(p.217).

The idea of two levels of cultural values may not be widely recognised in any city. It is conceivable that some people, perhaps most, do not have two sets of cultural values that they use to assess their urban environment. Most people have no need to understand or have a concept of a whole urban environment or a whole rural environment. That task is probably only considered by city policy makers, marketers of high level city functions or by strategists for production from rural areas.

Cultural values are logically a secondary consideration to need at both the city level and the sub-city level because :

(1) cities are often located and organized to meet a need that has a strategic purpose such as regional dominance in trade or authority, both of which are transcultural considerations

(2) within cities, each district has its individual purpose and takes its own particular meaning from the use made of that district. The knowledge results in an enculturation of values and expectations across districts that identifies each district with a specific need that can be satisfied there.

3.3.4 Conclusions

The conclusion from the literature is that different assessments may be made of the one environment by professionals, residents and visitors because they have different cultural values, but more directly they have different needs to be satisfied, different functions in mind for the environment, and they look for different information in the environment. Cultural forces play a major role in how people see and act, but those cultural forces are based in experience in meeting every-day needs and they will change, if that is necessary, to permit the satisfaction of needs in a familiar or an unfamiliar environment. For example, it is unreasonable to expect that architects and farmers will always respond to different environments as architects or farmers. It is more likely they will appraise environments from the standpoint of their manifest and latent personal needs which can be expected to vary whenever they depart from their occupational perspective.

Culture represents the social technology, learned by experience and from other people, that is used to satisfy a need. For example, agriculture uses technology that varies as a cultural trait in response to knowledge, wealth and the opportunities and limitations perceived in the environment. The cultural system that is used to look for information in the environment itself changes with experience in a new environment.

There is a high abstract level of cultural values which provide the central theme for the city and a lower level of cultural values used to interpret the clues within the environment at the street or neighbourhood level. A heritage area may embody the two levels of cultural values because it is the heritage of the city as a whole and at the same time it is a distinctive district within the city.

The Purpose Values in Table 2.1 are examples of the abstract level of cultural values that can be used to define a theme for the city. Some towns/cities call themselves a "heritage city" - this is an expression of a need to be satisfied by the city environment which can be refined with one or more of the Purpose Values. The different values held by the professional groups (ch.3.3.1), indicate that the needs of each profession have priority over both the first and second levels of cultural values. If this priority of professional needs did not exist, the professionals would presumably have some common major heritage values rather than the different values that focus on their particular skills.

Whether cultural values determine needs, or vice-versa, and whether it is a "chicken and egg" situation, are not really important if the proposition is accepted that need is a more tangible and actionable determinant of use of the environment and hence its assessment, than is a cultural background.

In the following Chapter 3.4, the central points are combined to form a core model of environmental assessment. These points deal with the imperative of need, cultural values and experience, the first impression stage and the analytical stage, unity, whereabouts and the meaning of an environment.

3.4 Core Model of Environmental Assessment

3.4.1 Synthesis

Chapters 3.2 and 3.3 elicited sufficient matters of procedure to form the model of assessment. They are summarised below under the headings of Meaning, Priorities and Process.

3.4.1.1 Meaning

The satisfaction of a manifest or latent need is fundamental to the meaning that can be attached to an environment. Once the need is set, cultural values provide the learned system to satisfy the need. They include the Purpose Values and Quality Values in Tables 2.1 and 2.2. The notion of need is broadly for subsistence or for emotional satisfaction from the pleasurable experience of fitting things together or finding attractiveness in the appearance of the environment. It explains the preference for either a wholly natural or a wholly built environment. The need for emotional satisfaction from a pleasurable experience from the environment is now termed a need for pleasure.

3.4.1.2 Priorities in Assessment

An assessor is expected to have these priorities:

(1) a priority for an environment that has a single consistent purpose, either for nature or for a human purpose, but not for a mixed purpose. An area should be a "natural unit",

(2) to be able to manipulate the environment to satisfy a need,

(3) where the assessor is a visitor, a priority for an environment that is a contrast to that usually experienced by the visitor, no matter whether the home environment is rural or urban.

3.4.1.3 Process in Assessment

The assessment process begins before arrival at the environment in question with the assessor holding two personal

factors that will be used in the assessment : (1) a Need to be satisfied which is the purpose for going to this environment ; (2) a Knowledge comprising a preconceived image or expectation of the environment and learned cultural values which also suggest what the environment should be like, based on group attitudes and cultural experience.

Linkages can be established between the need to be satisfied and the three priorities :

(1) the Need is to satisfy a physical requirement such as work, food, shelter, or territory, here termed a Sustenance Need, or to obtain emotional satisfaction, termed a Need for Pleasure.

(2) the Sustenance/Pleasure dichotomy of Need explains the different assessments of a rural environment by the farmer and the visitor and it is consistent with the third priority above for contrast when the assessor is not in the home environment.

(3) the Need for sustenance or pleasure is a direct pointer to the type of manipulation, active or passive, that the assessor will want to carry out in the environment.

The assessment process has two stages, Global and Affective, and Analytical, in which :

(1) the Global and Affective stage is the assessor's "first impression" as to whether the environment has the potential to satisfy the Need. This depends on the congruence (Unity in purpose) or not between what is expected in the Knowledge factor and what is seen. The preconceived image of the environment serves as a global framework against which the environment is compared. Points of reference in the environment are noted if they indicate an activity that helps in comprehending the environment, avoiding "getting lost", or otherwise orienting an image of the environment in memory.

These points of reference are Locational landmarks.

(2) The Analytical stage requires a reasoned examination of the environment for existing or potential situations in which the Need can be satisfied. Information from the environment is selected if it is relevant to the need, and then analysed. The analysis is made by referring again to Knowledge in the form of experience, cultural values, knowledge of cultural processes and to environmental clues. The elements in the environment that are relevant to the need must offer a Unified scheme in which to satisfy the need. There must be Locational landmarks to facilitate the direction of movement and to reference parts of the environment.

Size of the environment is a consideration if the information that is relevant to the need is not comprehended to form a whole that has the potential to satisfy the need. If the environment is a natural unit, for the purpose of need, the information is more likely to be understood. If the environment is not a natural unit, as may be the case in an historic area, more analysis or a spatial reorganization of information may be needed before the information is comprehended.

In the above framework, the Global and Affective (unconscious) assessment and the Analytical (conscious) assessment are the same in process because they are both a search for unity and for elements that structure the environment. The distinction between the Global and Affective stage and the Analytical stage is that the first is the confrontation of preconceived impressions by reality, whereas the second is an inquiry and analysis of reality. If the Global and Affective assessment is unfavourable, the Analytical assessment may not be considered to be worth the personal cost.

3.4.2 Core Model of Environmental Assessment

A core model of environmental assessment is developed in Table 3.2 as a general explanatory model from the above discussion of meaning, priorities and process in an assessment. The model's four factors of Need, Knowledge, Location and Unity are common to both the Global and Affective Stage and the Analytical Stage and they appear to be constantly present when different cultural values are involved. The model assumes no previous experience with the environment that is to be assessed.

To make an assessment with the core model, the environment's physical elements are analysed with cultural norms, as they are actualized in the four factors of Need, Knowledge, Location and Unity. For example, if the Need is for recreation there will be cultural values concerning the quality of recreation that the assessor will want to have satisfied in :

(1) the type and standard of recreation facilities required to satisfy the Need for recreation,

(2) the Location of the recreation facilities in relation to associated, or alternatively undesirable, activities,

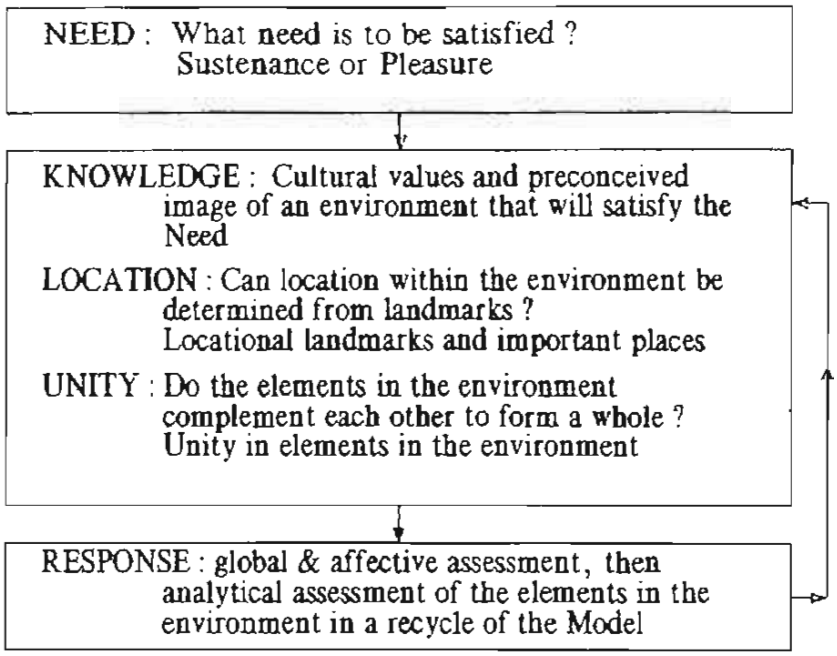
(3) the convenience and completeness of the facilities so that the recreation experience becomes a pleasurable whole (Unity).

The assessor may recycle the Analytical Stage and synthesise the result of each analytical cycle through the four factors with an imagination, in the Knowledge factor, of possible modified conditions of the environment that would better satisfy the Need. The assessor may imagine strategies that add, modify or remove environmental elements to find a strategy in which the revised set of elements form a unified whole that can satisfy the need. Each cycle will result in greater understanding of the environment and

a change in Knowledge that includes modified expectations. A particular element or alteration of elements may provide the key that completes the locational or unity requirements so that "things fit together", providing a surprise and enjoyment for the assessor.

The core model is proposed as a general framework to explain the process taken in the assessment of an environment. The core model does not explicitly introduce cultural values because the four factors of Need, Knowledge, Location and Unity are postulated as constant factors over all cultural values.

TABLE 3.2 : CORE MODEL OF ENVIRONMENTAL ASSESSMENT



NOTES : An environment is assessed according to whether it :

(1) can satisfy an individual's need for sustenance or pleasure,

(2) has reference points (landmarks, important places) from which the individual establishes location within the environment. and

(3) has unity (functional or aesthetic) in its elements.

An environment has meaning when it portrays a scheme that is comprehended by the observer.

3.4.3 Evaluation Of Core Model Of Environmental Assessment

The model is consistent with Ittelson's (1973, p. 16) five levels of environment perception (ch. 3.2.3) if :

(1) Knowledge is equated with Ittelson's fourth level of "developing categories for analysis and understanding" and with "kind of experience one expects" in his first level ;

(2) Need is equated with Ittelson's "kinds of experiences one expects and seeks" in his first level ;

(2) location is equated with "orientation" in his second level ;

(3) complementary elements and unity are respectively equated with "categories for analysis" in his third level and "systematic analysis of relationships" in his fourth level.

Application Of The Model To Aesthetics and History

The core model is proposed as a general structure for the assessment of an environment for any purpose. In the assessment of heritage areas the two main purposes of assessment are expected to be for aesthetic pleasure and to find a meaning of tradition and identity. In the following Chapters 3.5 and 3.6 two Sub-models of Aesthetics and Time are developed, again from conclusions in literature, to structure the way in which an environment is assessed for its visual attractiveness, capacity to express tradition or to otherwise have an historical meaning. The Core Model and the two sub-models are then combined in Chapter 3.6.4 and Table 3.5 as a model to assess a built heritage area.

3.5 Assessment of Aesthetic Quality

Aesthetic criteria are assembled in a Sub-model of Aesthetics that mirrors the factors of Location and Unity in the core model.

3.5.1 Guidelines To Aesthetic Value

Simonds (1983) proposes a guiding principle : "to preserve or create a pleasing site character all the various elements or parts must be brought into harmony" in which harmony means to "integrate the structural and topographic forms as to produce the best possible fit"(p.20). Smith (1983) claimed that :

> beauty emerges out of the tension between complexity and order. What is more, the complexity or disorder or arbitrariness must ultimately yield to some overriding pattern or coordinating principle ; unity must prevail over diversity.(pp.31-32).

Smith's (1983) coordinating principle could be the means to integrate the structural and topographic forms for Simonds' (1983) guiding principle. It could also overcome a criticism from Stiny (1978) of one test of aesthetic value :

> In traditional aesthetics, the standard canon for aesthetic value is 'unity in variety'. The canon of 'unity in variety' is intuitively appealing, but lacks the precision needed for rigorous application or testing.(p.146).

"Unity in variety" is the same as Smith's (1983) requirement above that "unity must prevail over diversity".

The precision that Stiny (1978) said was missing could be provided by using Smith's (1983) suggestion of a coordinating principle to find unity in a variety of architectural elements or a variety of natural elements. The idea of "Unity in variety" is a combination of three things established earlier in the thesis - the preference for variability in information (Child 1978) (ch.3.2.2.5), unity of perceived purpose in the environment

(ch.3.2.2.2), and unity in the elements perceived to satisfy the need (chs.3.2.3, 3.4.1.3).

Stiny (1978) then suggested a measure of aesthetic value for forms :

> The aesthetic value of a form is the ratio of the length of the description of the form to the length of the procedure (rules) given to generate the form.(p.147).

This measure of aesthetic value is an efficiency standard for maximum detail with simplicity in comprehension or construction of the form. The measure is a technical description of the guideline requiring 'unity in variety' because the numerator in the ratio corresponds with "variety" in the elements and the denominator is the rule that generates "unity" in the elements to make up the form. The shorter and simpler the generating rule, the smaller the denominator and the greater the aesthetic value. For example, the generating rule for a circle requires only two parameters, a centre and a radius, whereas a regular closed polygon of zig-zag lines has a generating rule of five parameters. A coordinating principle that ties a variety of elements together can also be considered as a denominator. The larger or more complex the coordinating principle that ties the elements together, the smaller the aesthetic value of the elements as a whole.

The following comments from Child (1978) imply a simple coordinating principle for the proportions of the surfaces of buildings in an area, the :

> notion of the "golden" section or proportion, which holds that the ratio of shorter segment to longer should equal the ratio of longer segment to the sum of the two.- - - the model has at best a very limited application.(p.118).

Bourassa (1991) considered that aesthetic preferences are determined by cultural rules which "are transmitted

socially"(p.90) :

> Thus, the role of cultural rules in landscape aesthetics is to define the manner in which different cultural groups find symbolic meaning in the landscape.(p.109). Aesthetic value is attached to places that afford symbols of cultural stability and identity.(p.143).

A coordinating principle is implied in symbols that mean something to a cultural group, even if those symbols are small and only conspicuous to the group. The coordinating principle may be an allegiance to a religion or nationality. Symbols may also be visually prominent places, that is landmarks, to reinforce cultural stability and identity.

However, a coordinating principle does not seem to be implied in Hooper's (1978) claim that :

> Architectural form can be specified by its structural elements, its materials, and the measurements of its surfaces and angles. However, very different dimensions are relevant in describing the perceptual experience of architecture. Spaces and surfaces provide the basic data for perceptual experiences, not the measurement of volumes and surface areas.(p.158).

Hooper (1978) did not say how the data in spaces and surfaces are a factor in the perception of an environment.

3.5.2 Assessment of Aesthetic Quality

The conclusion from the research is that an environment has aesthetic quality if there is a coordinating principle that unites the elements in the environment to provide strong physical proportions and/or solid blocks of cultural information. The coordinating principle may be *Located* in, or induced from, the strong physical proportions or the solid blocks of cultural information in the same way that Landmarks provide reference points for physical orientation.

Two examples of coordinating principles are the Method of Line Procession and the Principle of Relatedness (ch.2.6.3).

Chalmers (1980) reported, again from work by R. and S.

Kaplan, that "significant correlations were obtained between ratings of mystery and ratings of preference for slides of landscapes" in which "Mystery is defined as 'the promise of further information'"(p.32). Mystery and puzzle are brought about by the sight of elements that appear unrelated or inexplicable in an environment. It is proposed here that the aesthetic experience may be heightened if the perception of unity is brought about by a surprising key or explanation which fits the elements together in a whole. An example of the importance of the element of surprise in aesthetic appreciation of the environment is provided by Moggeridge (1983) who quoted San Savino (sixteenth century):

> A city should be built to the convenience and satisfaction of those who live in it, and to the great surprise of strangers.(p.67).

3.5.4 Sub-model of Aesthetics

A Sub-model of Aesthetics is proposed in Table 3.3, for use within the Model of Environmental Assessment, which considers the factors of variety, strong proportions in physical structures and solid blocks of information, the coordinating principle, unity and surprise. The sub-model mirrors the structure of the Core Model of Environmental Assessment in the following characteristics:

(1) The value of aesthetic quality is in the pleasure it produces. Pleasure is one of the two types of needs in the Core Model of Environmental Assessment:

(2) Elements with strong proportions in the sub-model parallel the Locational Landmarks in the Core Model;

(3) Unifying relationships in the sub-model parallel the Unity criterion in the Core Model:

(4) Pleasure may be enhanced by surprise.

TABLE 3.3 : SUB-MODEL OF AESTHETICS

(1) Variety : there is variety in those elements of the environment that relate to the Need

(2) Prominence : there are elements in the environment (e.g. symbols, points, shapes, or surfaces) that are prominent or have naturally strong proportions and which suggest a coordinating principle to establish links to, and to unify, other elements in the environment

(3) Unifying Relationship : a unifying relationship between the elements, i.e. congruence and compatibility, to satisfy the Need

(4) Surprise In Unity : there is a surprise in the simple and quick way in which the elements mentally fit together which may override some incongruity or unexpected relationship in the environment. The key to the fitting may be a coordinating principle induced from observation of the elements in the environment.

3.6 Time in Assessment of the Environment

The aim is to develop a Sub-model of Time to structure the assessment of historic significance in an environment. Time has been linked with the environment in stories of tradition and in stories of important events that explained the shape of the environment and the existence of the world itself.

3.6.1 Perception of Time In Environment

Kern (1983) discussed some perceptions of time in war and in peace which indicate how time can affect an assessment.

Wartime

Kern (1983) drew on soldiers' stories of lines of fires and explosions at the battlefront in World War 1 to show there can be a direct relationship between a perception of the environment and an understanding of time :

> It is a frightful curtain which divides us from the world, which divides us from the past and from the future.
> Fixation on the present was one response to the imminence of death.(p.293). - - - a contraction of consciousness that took place as one approached the front, fixing spatially on an ever narrower visual sphere and focussing temporally in the present.(p.294).

Where the need is to survive, such as a battlefront environment, the period of time for the assessor is very short, with no past or future and the assessor feels a very close connection between the environment and the present.

Peacetime

Kern (1983) also used comments from other writers, and his own conclusions, to explain how perceptions of time in peaceful surroundings produce meanings for an environment that are very

different to those in war :

> Proust described the village church as an embodiment of the passion and faith of his ancestors.
> The peace we experience in the presence of a ruin comes from the resolution of the tension between two moments in time : 'the past with its destinies and transformations has been gathered into this instant of an aesthetically perceptible present'.(p.40).
> The conservatives find comfort in the past - the old house, the portrait gallery provides meaning and stability in a changing world. This 'antiquarian history' hinders the impulses for action.(p.52).
> For Proust, as for Joyce, travel took place as much in the mind as in the world.(p.218).

A meaning was attributed to the environment when old buildings became evidence that satisfied the assessor's need for tradition, in which the environment removed the gap between past and present, and linked both in a whole that had an aesthetic quality. The coordinating principle (ch.3.5) here was to link the past to the present by ancestry, a very short generating rule in Stiny's (1978) measure of aesthetic value.

Conclusion

Kern (1983) used survival in war and tradition as two human needs that gave very different understandings of time in the environment, yet both the short period and the long period were closely associated with the environment. In war, the environment was associated with the present, a very short time period, but in peacetime the same environment was a memorial to war which satisfied a need for tradition and it was associated with a long period of time, the past and the future.

Kern's idea of travel in the mind provides a method to link the histories of individual old buildings and to provide support for the cultural value of tradition. His comments are in the same direction as Davison's (1988) references (ch.1.2) to "antiquarian history", "man of action", and "re-enter the past".

3.6.2 Steps in Search of Historical Data

The first level of historical data research is the history of the area of old buildings and its context (e.g. town) to find whether there is a heritage of beliefs, customs or interactions. If there is such a heritage it can be the Purpose Value or reason for an assessment and an historical period is defined to be consistent with the reason.

This research will indicate whether in the development of the beliefs, customs or interactions there was a particular development or combinations of developments, here termed a threshold event, that created the opportunity for a more extensive phase of development, at least in a relative sense. History will also indicate whether a phase of development was followed by another event or development that created the opportunity for a subsequent phase of general development, or whether there was a period of consolidation and replacement, or alternatively a period of decline. A building or other structure arising directly from a threshold event is here termed an historical landmark. A building arising during a phase of development is here termed a phase building.

The second level of historical data research is to survey the existing buildings, using the Principle of Evidence and Chenhall's Lexicon, and to then find which buildings can be related to a Threshold Event or a Phase of Development and to the people who had an impact on the development of the area.

3.6.3 Conjunction of Buildings with History

If there are sufficient old buildings to make a conjunction or association with each threshold event and development phase, then the old buildings complement the historical events and phases and there is unity between the old buildings and history,

sufficient to provide a unified image.

The meaning of the environment is enhanced by images of past environments, each with its own time scale. These images allow the observer to mentally move between those environments, and from them to the present environment. The sum of these images can bring about a comprehensive understanding of purpose, change, variety and congruence in the present environment, and the shaping of culture.

Old buildings can be evidence of achievements and pointers to action in the future. Tuan (1977) said :

> past events make no impact on the present unless they are memorialized in history books, monuments, and solemn and jovial festivities that are recognized to be part of an ongoing tradition. An old city has a rich store of facts on which successive generations of citizens can draw to sustain and recreate their image of place.(p.174).

If the history of the threshold events and phases of development can be related to similar occurrences in other more widely known places or given wide publicity it is possible that the history of the area will be better received by residents and visitors alike. To make the connection between the past and the present, Pearce and Moscardo (1985) explained that :

> people need 'conceptual pegs', that is links or points of commonality between what they already know and what they are viewing, for the setting or exhibits to have an educational impact.(p.43).

In many heritage areas the residents will have those mental pegs but the visitor will not, unless the area has a history or a characteristic that is widely known.

3.6.4 Conclusion

A consideration of time as a medium or property of the "life" of an environment will enhance its meaning, irrespective of whether it is an historic or a natural environment.

The perception of time is very directly related to the congruence of the person's immediate need with the elements in the environment. If the two are congruent then the time period is long, whereas it is short if the need and the environment are incongruent.

If the perceived time span is long, an assessor can build a mental image of events and spatial images corresponding to past periods which provide a continuum of understanding of the development of the environment and its present condition. This continuum of images to a whole picture of development phases has an aesthetic quality of unity in variety and it provides the certainty that "contributes towards human happiness" (ch.2.2.7).

Consequently there are two opportunities for aesthetic pleasure, first from understanding the history of the area and then from making the connection from the past to the present in the old buildings.

These conclusions are incorporated in the Sub-model of Time proposed in Table 3.4 below. A Model of Environmental Assessment follows in Table 3.5 which incorporates the Core Model in Table 3.2, the Sub-model of Aesthetics in Table 3.3 and the Sub-model of Time.

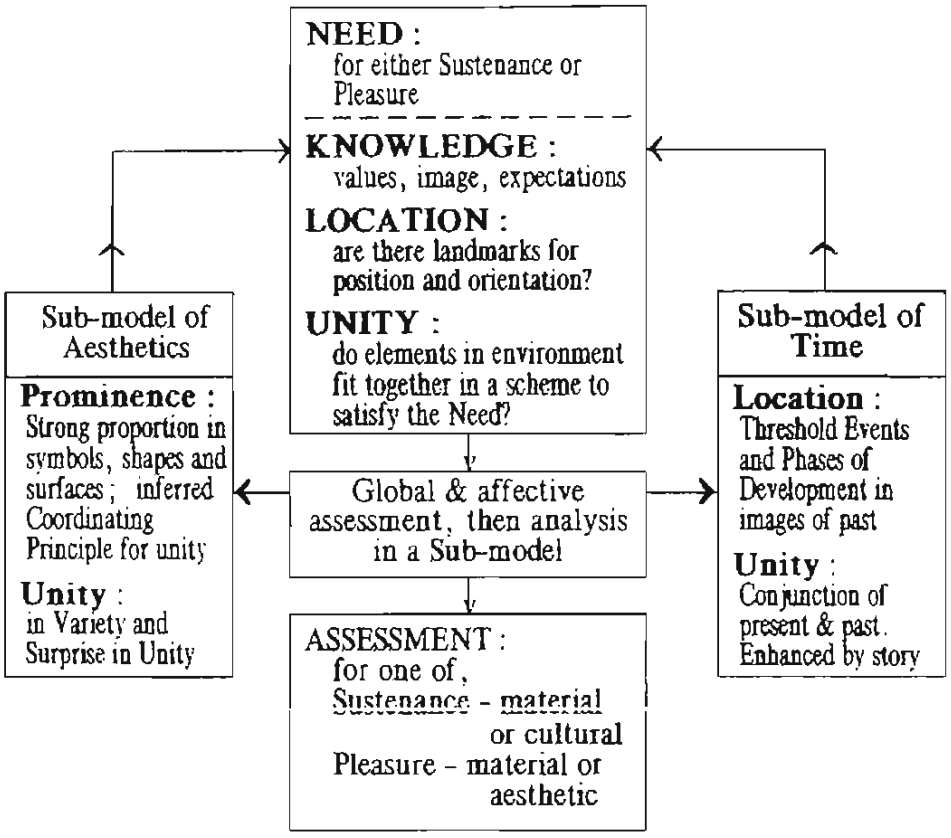
TABLE 3.4 : SUB-MODEL OF TIME

(1) Time Span : The span of time associated with an environment in an observer's mind will be short or long depending on the need the observer has. For example it will be short if the need is to find a place for survival and it will be long if the need is to find support for tradition. The need for survival and the need for tradition are both a need for sustenance from the environment.

(2) Threshold events are those that activated, or resulted in, a phase of development or a period of change in the environment. They are guideposts or milestones around which to orient the phases of development of the environment.

(3) Unity : If a conjunction is established between the existing old buildings and the Threshold Events and Phases of Development, then it is possible to imagine a sequence of past states of an environment in a logically unified image that incorporates variety in detail and enhances the meaning of the present environment. The past states may include an association with people, through their values and achievements.

TABLE 3.5 : MODEL OF ENVIRONMENTAL ASSESSMENT



NOTE :

Other sub-models are possible, for example for material sustenance, which also mirror the environment-based factors of Location and Unity in the core of the Model.

3.7 Logic Considerations in Assessment

The aim is to explore the range of assessments that could be made by residents and visitors. The assumption is made that the heritage area is a commercially active area providing services and goods that a community needs continuously.

In Table 3.6, Types of Assessment in an Historic Area, four applications of the Model are shown for four Types of Need. The four types are based on a need for sustenance or pleasure which could be satisfied for a material purpose or a heritage purpose. In column 2 of Table 3.6, Sustenance of Heritage can refer to a sustenance in the heritage environment of any one of the purpose values in the Tradition Group in Table 2.1.

A person making an assessment of a multipurpose historic area could have both heritage needs and non-heritage needs to be satisfied in the area. A resident would be likely to be in that situation whereas a visitor may only have to satisfy a heritage need.

A Resident's Hypothetical Range of Assessments

A resident might only ever have one of the four types of need to be satisfied, or alternatively might have four types to be satisfied, not all at once but continuously and regularly. Between these two extremes a resident might have any one of ten possible combinations of two or three of the Types of Needs to be satisfied by the area. It is likely that a resident would at least have a need for material sustenance from a commercial area.

TABLE 3.6 : TYPES OF ASSESSMENT IN AN HISTORIC AREA

NEED

Sustenance or **Pleasure**

Type 1 Need	Type 2 Need	Type 3 Need	Type 4 Need
Sustenance of Material Need	Sustenance of Heritage of Tradition	Pleasure from Material Facility	Pleasure from Heritage of Aesthetics
commercial services, work	history and evidence of tradition	recreation, entertainment	appearance of built area
LOCATION : Landmarks As Stable Referral Points			
Prominent Feature	Public Structure	Focus of Recreation	Quality Building
prominent location, transport node	historic landmark ; places of authority ; communication hub ; religion	highlight in entertainment	design, achievement, magnificence, size
UNITY : Detail In A Pattern That Satisfies The Need			
Facilities	Broad Base	Completeness	Good Fit
arrangement meets sustenance needs	places and areas of meaning for tradition ; conjunction of old buildings with past threshold events and phases of development	social outing ; passive and active recreation for pleasure	detail and variety with understood pattern

A heritage-related need is combined with a material need in nine of the fifteen possible assessments that a resident could make from combinations of the four types of needs.

When residents are asked to give an assessment or opinion of the area, and they have a heritage need and a non-heritage need to be satisfied, they must balance the positive and negatives points in the satisfaction of both needs and arrive at an overall assessment of their opinion of the area.

The Model can explain the assessment made by a person who has only one need to be satisfied but it cannot explain the mechanism a person uses to aggregate satisfaction for a heritage need with satisfaction for a non-heritage need into a single assessment of the area. In Chapter 6 the contingent valuation method is used to aggregate the anticipated increase in benefits brought about by conservation but it cannot give an aggregate assessment of satisfaction with an area.

3.8 Synopsis Of Model

3.8.1 Content of Model

The core of the Model in Table 3.5, between the two Sub-models of Time and Aesthetics, is a general model to assess an environment for any purpose, heritage or not, with the four factors of Need, Knowledge, Location and Unity.

In an assessment of a built heritage area, the factor of Need is to assess an area for an historical or aesthetic purpose which is expressed as one of the specific Purpose Values in Table 2.1 from the Tradition Group or the Aesthetics Group, which in turn can implement a Purpose Value from the Enjoyment Group. Need is a given exogenous and constant factor.

The relative weights of the other three factors in the Model are estimated in Chapter 6.7.3 from their regression coefficients.

3.8.2 Sub-model of Aesthetics

In the Sub-model of Aesthetics, the Model's factor of Location becomes Prominence which can mean landmarks, vertical or horizontal accentuation in building surfaces, strong physiographic elements in a landscape or other strong cultural information which suggests a coordinating principle that can be applied as a test of unity across the other elements of the environment that are related to the need.

The Sub-model of Aesthetics implements the Quality Values from the Aesthetics, Authenticity and Representativeness Groups in Table 2.2.

Consistency With Concepts In Chapter 2

The Sub-model of Aesthetics encompasses the more detailed assessment criteria in the Criterion of Area Architectural Quality and Landmark (Table 2.9, ch.2.6.2) which requires "*a contrast in scale provided by larger buildings which function as landmarks or anchor buildings to establish the identity of the area through their scale, architecture and setting*". This is an example of the requirement in the Sub-model for "*Prominence - Strong proportions in symbols, shapes and surfaces - - - which suggest a coordinating principle*". The requirement in the criterion for "*a high degree of unity across the area displayed by the design and materials in the buildings*" is a particular application of the requirement in the Sub-model for *a unifying relationship between the elements* that are relevant to the Need. The criterion of Area Architectural Quality does not implement the two factors of *variety* and *surprise* in the Sub-model Of Aesthetics.

The criterion of Landmark (ch.2.6.2) is included within the factor of Prominence in the Sub-model of Aesthetics.

The Principle of Contrast (ch.2.6.3) is amended to take account of the Sub-model of Aesthetics :

A new building may contrast with old buildings, for example in scale, provided :

(1) its location is suitable for a landmark, a spatial reference point, but not where it divides a group of buildings of congruent architectural character ;

(3) its design implements an inferred coordinating principle

from the prominent symbols, shapes, surfaces or other feature in the external appearance of the old buildings, but not so as to mimic the features of the old buildings ; and, (4) the new building has architectural characteristics that symbolise an invitation to the area in which it is prominent and a building use that associates with or complements the uses in historic buildings.

3.8.3 Sub-model of Time

The environmental factor of Location in the core Model is applied in the Sub-model of Time in the concepts of Threshold Events and Phases of Development.

The environmental factor of Unity is a conjunction between the remaining old buildings and the Threshold Events and Phases of Development, to satisfy the assessor's need. The Unity factor is enhanced by stories that tie people and their activities to the threshold events, phases of development and old buildings.

The Sub-model of Time implements the Quality Values from the Achievement, Associational, Authenticity, Rarity, Representativeness and Story Groups in Table 2.2.

3.8.4 Delineation of Heritage Area

The global and affective assessment gives the first impression of the limit of the heritage area but it may be altered or confirmed by an analytical assessment.

The spatial extent of an historic area that should be described as a heritage area is a matter of judgement based on the analysis of the area using the Model with its two Sub-models. If both

Sub-models are used they may give different indications of where a boundary for the area should be.

If the analysis uses historical information, the boundary will be the outer limit of the conjunction between the existing old buildings and the threshold events and phases of development.

If the analysis is made for aesthetic reasons that relate to the architectural characteristics, the boundary will be the extent of the unity in the architectural characteristics as it is found through a coordinating principle, lead or theme for the architecture of the area as a whole.

The method of assessment therefore provides a remedy for the problem expressed in some assessment studies where a boundary for the heritage area could not be specified because the area was thought to merge with its surroundings.

3.8.5 Assessment and Statement of Meaning

At the end of the assessment, a statement is made of the meaning that can be attached to the area for the Purpose Value in the assessment. It is a summary of the global and analytical assessments and the delineation of the heritage area.

Evaluation of Assessment of Area

If the findings in the global assessment correspond to those in the analytical assessment, then the assessment is robust.

The statement of meaning in the assessment is evaluated or audited by the Principle of Historic Precinct in Table 2.9. The Model's factors of Location and Unity are also present in the Principle of Historic Precinct.

Significance of Individual Buildings

If the outcome of a positive assessment of an area is to be an environmental plan for its conservation, or if individual places within the heritage area are to be highlighted for tourists' attention, the individual places must be listed for protection. They must be documented with a statement of the contribution by the place to the meaning that is attached to the area, the data to complete Chenhall's Lexicon, a reference to the Dimensions in Heritage Significance and a statement of the Townscape Value of the place.

3.8.6 Additional Criteria for Visitors

A positive assessment of an area for a Purpose Value does not necessarily imply the area will be appreciated by visitors. Visitors may not believe in or otherwise share the Purpose Value in the assessment. That problem could be clarified by anticipating who the visitors are likely to be and then researching, for instance by survey, whether they are likely to accept the Purpose Value in the assessment. The survey would help to answer the question : Are visitors only concerned with a good day out when they visit a heritage area or are they trying to develop an understanding of the relevance of heritage buildings to themselves ? This question was not researched in the thesis.

In Chapter 2, one of the visitors' interests in heritage was noted to be an urge to associate with something or someone great (Tilden, 1978, p. 12). That statement defines one common need to be satisfied for visitors to a heritage environment. The Purpose

Values in Table 2.1 can be used to identify the nature of the greatness because they cover four broad classes of reasons that have been given for conserving heritage.

Once the visitors' values are known or assumed, the Principle of Visitation, the Criteria of Enjoyment for Visitors and the Criteria of Tradition for Visitors are used to check whether the assessment of the area indicates the area is likely to meet the needs of visitors.

3.8.7 Limitation in Model of Environmental Assessment

A limitation in the Model, identified in Chapter 3.7, is that there is no way to separate a resident's assessment of an historic area into two parts, an assessment based on a heritage related need, and an assessment based on a non-heritage related need. Some people may be able to make separate assessments but it is unlikely that most people will be able to do so. Logically, the visitor appears to be the only person who can carry out a heritage assessment unaffected by non-heritage needs. The limitation is a matter of degree that will depend on the circumstances, so the Model is not rejected.

The assessor's personal characteristics of residence and education are not explicitly in the Model but their effect is noted (ch.3.3, end of ch.3.4.2 and ch.3.7) in the assessor's factors of Need and Knowledge. The effect of income on an assessment is discussed near the end of Chapter 6.4.3.2. The effect of personal characteristics on cultural values and the Model is noted for further research in Chapter 8.2.

The Model's four factors express the main dimensions of an assessment. The sub-models of Aesthetics and Time are two interpretations of the factors of Location and Unity, and more sub-models would extend the application of the Model. But modelling cannot capture all the complexity of an assessment.

3.8.8 Conclusions

The three deficiencies in the method of assessment that were identified in Chapter 2.7.3 have been removed:

(1) The Model of Environmental Assessment and the two Sub-models of Aesthetics and Time provide the environmental framework to assess heritage areas in mining towns, industrial areas, transport areas or farming areas.

(2) The characteristics of landmark, location, unity and use in the concept of the Townscape Value of a building (ch.2.6.2.3) are now related to the assessment of an area through the Model.

(3) The Model is a coherent environmental framework that coordinates the values, concepts and principles in Chapter 2 and completes the method to assess and to explain an historic area as an environmental unit.

The Model and some of the preceding hypotheses are used in Chapter 4 to assess the historic central commercial area in Charters Towers. The Model is used in Chapter 5 to develop an economic/environmental hypothesis that explains why people would be willing to pay for the conservation of a built heritage area, and in Chapter 6 to explain residents' opinion of the area in Charters Towers and their willingness to pay for its conservation.

4. ASSESSMENT IN CHARTERS TOWERS

4.1 Method Of Assessment

Charters Towers is in north Queensland. It is 130 kilometres south-west of the coastal city of Townsville, in undulating granitic country with a dry tropical inland climate. The aim was to assess the historic central commercial area of Charters Towers, on Figure 4.1, as it existed in late 1991. Some sections of Mosman Street and Gill Street are in the photos in Figures 4.2 to 4.17. The position and direction of the camera for each photo are shown on Figure 1. The old buildings are listed in Table 4.1. Their street address numbers are on Figure 4.18.

The history of development in the town was searched and a tradition of excellence in achievement was found in Chapter 4.2 which became the reason or purpose of the first assessment of the central commercial area. It was assessed globally in Chapter 4.3 and analytically in Chapter 4.4 to find whether there are old buildings to represent that tradition.

A second assessment was made in Chapter 4.5 for the Purpose Value of Aesthetic Ideal with the Sub-model of Aesthetics and associated concepts (ch.2.7.2.1) using historical photo collections, more recent photos (1991) and knowledge from visits.

An assessment of an historic residential area could be made with this general method but it was not attempted here.

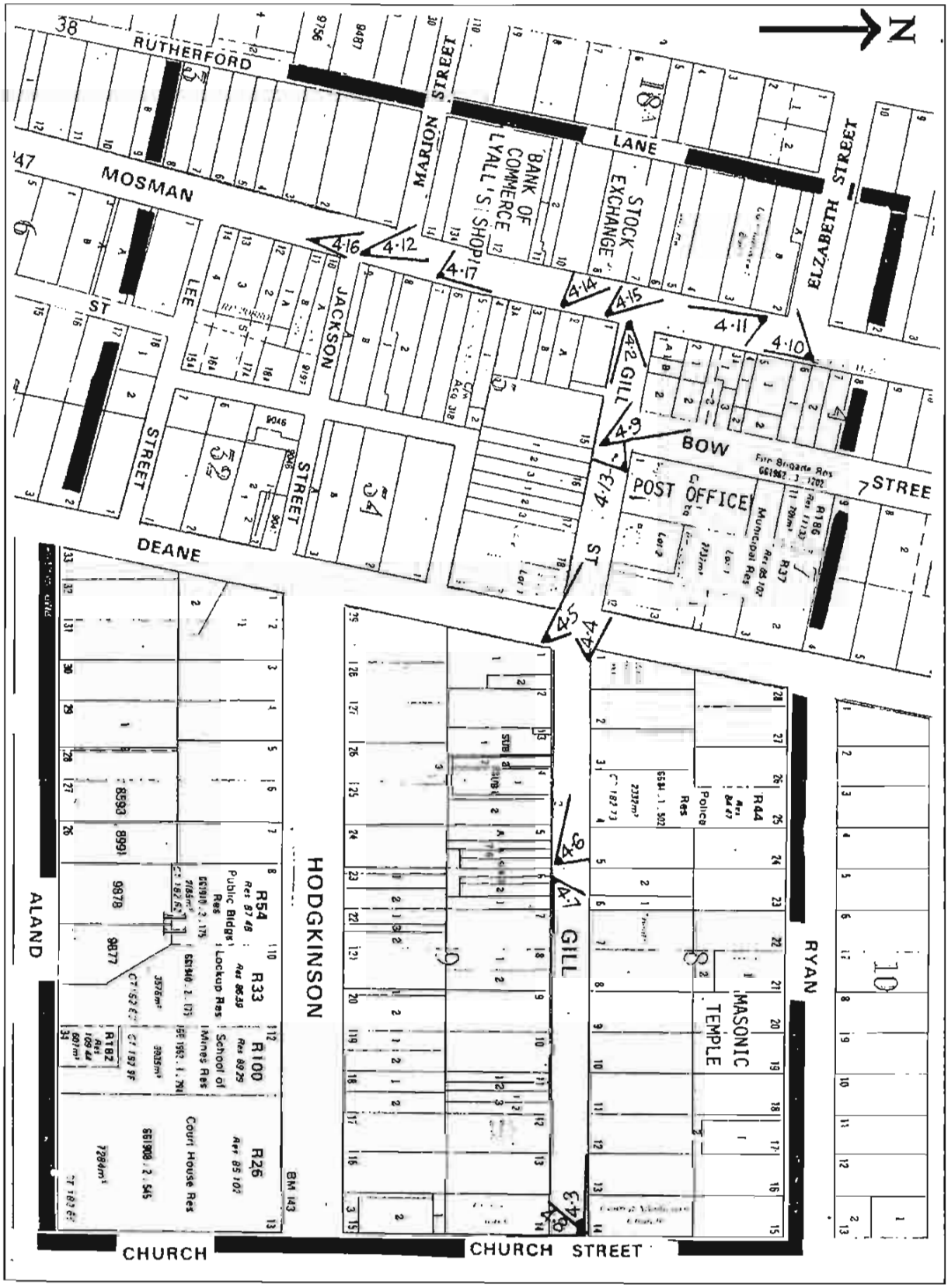


FIGURE 4.1 : STUDY AREA IN CHARTERS TOWERS

Figure 4.2 : Gill Street to east from Mosman Street corner. Post office in centre. (1992)

Figure 4.3 : Gill Street to west from Church Street. Excelsior Hotel on left. Court House Hotel with footpath verandah in centre. (1992)

Figure 4.4 : Gill Street to west from Deane Street ; from left ANZ Bank, Bank of NSW ; from right, Ackers building, Westpac Bank, Post Office (1992)

Figure 4.5 : north-west corner of Gill Street and Deane Street (1992) ; from left, Post office, Westpac Bank and Acker's Building

Figure 4.6 : North side Gill Street, towards Deane Street on left ; from left, Post Office spire, Town Plaza supermarket, Police Station (1992)

Figure 4.7 : North side Gill Street, towards Church Street on right ; centre, former Regent Theatre and Northern Miner building (1992)

Figure 4.8 : Excelsior Hotel at south-west corner of Gill Street and Church Street (1992)

Figure 4.9 : west side of Bow Street, from Gill Street corner (1992)

Figure 4.10 : West side of Mosman Street, to south from Elizabeth Street ; from right, shop (1970's), Buckland building (former Royal Bank), QN Bank (now City Hall), Royal Arcade, Bright building, Aust. Bank Commerce, Lyall's Jeweller, Ineson building, Romberg building, Marion Street, Royal Hotel (1992)

Figure 4.11 : East side of Mosman Street, to south from Elizabeth Street ; from left, Bright building, Foy building, Ross's Building (destroyed by fire 1992), Gill Street, vacant, Whitehead building and Smith building (now Arthur Titley Centre) (1992)

Figure 4.12 : North-west corner of Mosman Street and Marion Street viewed from Jackson Street corner ; from left, Romberg building and Ineson building, Lyall's jeweller, Australian Bank Commerce, Bright building (1992)

Figure 4.13 : south side of Gill Street (1992) ; D. Smith & Co. Building (later Pollard's) ; Royal Arcade on right in Mosman Street

Figure 4.14 : west side of Mosman Street (1992) ; Royal Arcade (became site of Stock Exchange)

Figure 4.15 : west side of Mosman Street, opposite Gill Street intersection (1992) ; City Hall (former QN Bank) ; Royal Arcade on left

Figure 4.16 : View to north in Mosman Street from Jackson Street corner before 1887 (photo CTHP 130)

FIGURE 4.17 : Mosman Street, north of Jackson Street in 1890's (photo CTHP 192)

4.2 History Of Excellence In Achievement

This Chapter 4.2 draws on the history of Charters Towers to determine the achievements of the town as a whole.

4.2.1 History of Development 1872-1901

The development of Charters Towers began in early 1872 below the Day Dawn Reef at the base of the north-west slope of Towers Hill, where Mosman discovered surface gold in late 1871.

The town development began in Mosman Street along a gently rounded ridge that descends to the north from Towers Hill, midway between the Day Dawn reef at the south end of Mosman Street and Plant's ore crushing and gold extraction mill and dam on Mosman Creek at the north end of Mosman Street. The business area was first established on the west side of Mosman Street on land which became Town Section 1.

From Mosman Street, town development quickly spread along Gill Street because it was the only connection to the former gold mining town of Millchester, four kilometres to the east. The eastern limit of the central commercial area is Church Street which is the western edge of the broad "Hospital" ridge that also descends gradually to the north from Towers Hill. The central commercial area has the shape of a T with the head along Mosman Street and the body in Gill Street across the natural drainage catchment between Mosman Street and Church Street.

From the literature, three phases of development in the mines and the commercial area were identified in the periods

1872-81, 1882-85, and 1886-1901. The period 1872 to 1901 was the last quarter "of the formative period of Australian history, 1801 to 1901" (Moscardo and Pearce, 1986, p.471).

Commercial Area

The brick and concrete buildings in the commercial centre were the result of strong production from the gold mines, mining confidence, and overseas investment in mining companies. The third and last concentrated period of building was from 1886-1901. In 1892 Marsland said :

> Buildings are still built of wood, although brick and cement have been recently adopted in all public and some private buildings. (p.3).

As a consequence of the Australian financial depression of the early 1890's there were bank closures in Charters Towers in 1893. These banks were the Australian Joint Stock Bank, London Chartered Bank of Australia, the Bank of North Queensland, and the Queensland National Bank (Menghetti, 1984, pp.237, 239).

The historic buildings remained because there were more than enough commercial buildings for the population which declined from 30,000 in 1900, at the peak of gold mining, to 8,000 in 1980 and rose again, after more gold mining, to 9,000 in 1992.

Protected Buildings

Eight buildings in the central commercial area have been protected by the former Queensland Heritage Buildings Protection Act 1990 and the Queensland Heritage Act 1992. They are the Australian Bank of Commerce, Court House, Lyall's Jewellery Shop, Masonic Temple, Police Station, Post Office, Royal Arcade which once housed the Stock Exchange, and the School of Mines. All were erected before 1901 except the Police Station (1910). They are shown on Figure 4.1.

4.2.2 Tradition Of Excellence In Achievement

Charters Towers began its tradition of gold mining in 1872 and, following a period of inactivity between the 1920's and 1980; the tradition is active again due to new methods in mining and processing of ore.

The development of Charters Towers represented a peak in the cultural development of gold mining settlements in Australia in the 1890's. The central commercial area is only one aspect of cultural development which included the mines, mining technology and mining education, five schools in the 1880's, secondary school education in 1892, housing and music.

The historical literature indicates that Charters Towers has traditions in gold mining, commerce, education and entertainment (music). The traditions are based on local private initiatives, a characteristic that distinguishes Charters Towers from most settlements in Australia which at some stage developed from or relied on government initiative or economic support.

It is a tradition which is part of a national ideology (Ehrentraut, 1993) of hard working achieving pioneers.

Need In Assessment

Consequently the need in the assessment is:

To find whether the group of old buildings in the central commercial area represents Excellence in Achievement related to mining, commerce or community facilities such as education and entertainment.

The next consideration, in Chapter 4.3, is a global and affective assessment or "first impression" of the central commercial area.

4.3 Global & Affective Assessment

4.3.1 Impression Of Central Commercial Area

Gill Street, between Mosman Street and Church Street, had a continuous line of buildings, mostly old, on both sides of the street (Figures 4.2 to 4.8). When standing in the dip and bend at the intersection of Gill Street and Deane Street, the combination of the two views of old commercial buildings to the east and west gave a *clarity and unity of commercial purpose* to this part of Gill Street.

The view to the east in Gill Street ended on the near edge of the hospital ridge, at the two-storey Excelsior Hotel (Figures 4.3 and 4.8). Within that view, the noticed buildings were the London Chartered Bank 1886 on the right and, on the left, the Police Station (Fig. 4.6) followed by the Regent Theatre and Northern Miner (Fig. 4.7). Further east and on the right was the Court House Hotel followed by the Excelsior Hotel (Fig. 4.3).

The view to the west from the Deane Street corner took in the former Bank of NSW, the Post Office, Smith's (Pollard's) Big Store and Ross's Building and it ended at the broad facade of the former Queensland National (QN) Bank that became City Hall in Mosman Street (Fig.4.4). The City Hall closed the western view in Gill Street and the size of this building suggested there were more commercial buildings in Mosman Street.

A walk through Gill Street presented three surprises. First, the exterior and interior of "Pollard's Big Store" (Figure 4.13);

second, Ross's Building (Figure 4.11) at the northeast corner of Gill Street and Mosman Street was very noticeable for its imposing "old world" ornate detail ; third, just off Gill Street in a short side street, Bow Street, there were three buildings (Figure 4.9) opposite the Post Office that fitted together and complemented the buildings in Gill Street.

When standing at the intersections of Mosman Street with Elizabeth Street and Gill Street, the view of the buildings to the south in Mosman Street (Figures 4.10 and 4.11) ended at a crest on the Mosman Street ridge at the intersection of Mosman Street with Jackson Street and Marion Street, against a background of Towers Hill. In the view to the south there were gaps between buildings on both sides of Mosman Street.

From the corner of Marion Street and Mosman Street, the long view down Mosman Street to the north took in commercial buildings and houses in a scene that gently descended and tapered into the background of the present Thornburgh school oval centred on Mosman Creek. That oval was the former site of Plant's dam and ore crushing mill (Zara Clark HP 12, CTHP 332). The photo (CTHP192, Zara Clark HP 143) in Figure 4.17 gives a similar view from the 1890's with the chimney of Plant's mill, now gone, in the background.

There was no natural feature or building to define a northern boundary for the central commercial area in Mosman Street, but it appeared to end near Elizabeth Street at the northern end of a row of commercial buildings on both sides of Mosman Street.

The western frontage of Mosman Street had five visually prominent buildings (Figure 4.10) in Buckland's Building, the QN Bank, Royal Arcade, Australian Bank of Commerce and the Royal Hotel. The QN Bank and Ross's Building helped to locate the turn from Mosman Street into Gill Street. A walk to the south along Mosman Street from Gill Street gave two surprises: the first on the right was the interior of the Royal Arcade (Fig. 4.14), and the second on the left was the interior of the two former shop buildings, Whitehead's and Smith's (Fig. 4.11) that became the Arthur Titley Centre.

There were negative impressions from a take-away food shop (Big Rooster in Figure 4.10) in Mosman Street and a supermarket (Town Plaza in Figure 4.6) and bank (Commonwealth) in Gill Street. The three were erected in the 1970's with awnings and gables that are characteristically associated with much older buildings. The Westpac Bank (Figure 4.5) and the ANZ bank (Figure 4.4) were also erected in the 1970's but with modern materials and exterior design that did not raise a negative impression.

The northern frontage of Hodgkinson Street was generally unoccupied and it provided rear access to the commercial buildings facing Gill Street. The south side of Hodgkinson Street was fully occupied with old houses, the Mining Warden's Court House and the distinctive timber School of Mines.

Ryan Street was fully occupied on both sides with old houses. Some on the north side were used for business. The distinctive

two-storey Masonic Hall was on the south side of the street.

The part of Deane Street to the south of Gill Street was occupied by vehicle/engineering establishments while the part of Deane Street north of Gill Street was occupied with houses.

There was no impression that the buildings in Hodgkinson Street, Ryan Street and Deane Street were part of the central commercial area. They were comprehended as the secondary fringe of the central area.

4.3.2 Locational Landmarks

Six landmarks were useful to establish location and orientation within the area, to reference the location of other buildings, and to relate Gill Street and Mosman Street to each other. The post office spire was visible from anywhere in the commercial area and from many other parts of the city.

The six landmarks were the Post Office (Figures 4.2, 4.4, 4.6) at the east corner of Gill Street and Bow Street, the Excelsior Hotel (Figures 4.3, 4.8) at the south-west corner of Gill Street and Church Street, Ross's Building (Figure 4.11) and the QN Bank which became City Hall (Figures 4.10, 4.15) at the intersection of Gill Street and Mosman Street, the Australian Bank of Commerce (Figure 4.12) in Mosman Street and the Royal Hotel at the south corner of Mosman Street and Marion Street.

4.3.3 Global and Affective Assessment

The impression in the global assessment was that the buildings in Gill Street and Mosman Street, within the central commercial area outlined on Figure 4.1, together had a clear

purpose of business and shopping and an appearance of physical cohesion. Hodgkinson Street and Ryan Street did not have a commercial purpose. Deane Street had service industry mainly for motor vehicles, but this industry was unrelated to the commercial area. The feeling experienced in Gill Street was the presence of the tightly packed walls of old buildings on either side that seemed to crowd onto the street and and at the same time sit naturally together across a shallow depression. The buildings in Mosman Street were more pretentious than those in Gill Street but the effect of their presence was not as imposing on the space of the street as was the case in Gill Street.

The buildings that impressed as achievements were the former bank buildings, the old hotels, the Post Office, the exterior of Ross's Building at 1 Gill Street and the interior of Whitehead's building at 99 Mosman Street.

This description and overall impressions of the study area completed the global and affective assessment of the area. The next stage in the assessment was an analysis to find whether the area helped to sustain a tradition of Excellence In Achievement in mining, commerce, education and entertainment.

4.4 Assessment For Excellence In Achievement

4.4.1 Method

The assessment had three steps : first, identify the old buildings erected during the three phases of development between 1872 to 1901 from old photos and maps ; second, use the history of the the central commercial area to link the old buildings to the threshold events and phases of development which marked the town's achievements ; third, form a conclusion as to an overall conjunction between the old buildings and the historical events and phases in the development of the town's achievements. In step 2, it was necessary to consider the history of Charters Towers at the micro-level of individual sites, events and people, whereas the discussion of the town's history in Chapter 4.2 was at the macro-level of the town's aggregate achievements.

4.4.2 Identification Of Old Buildings

A street survey was made of the buildings in the study area in November 1991. The approximate age and some associations of the old buildings were established from historical photos, old maps, inscriptions on the walls and footpath and literature. This method satisfied the Quality Values in the Authenticity Group in Table 2.2. The survey revealed there were approximately 140 properties of which at least 62 had buildings, listed in Table 4.1, that were erected in the period to 1901. At the time of the assessment there were 50 commercial buildings from the era to 1901. The street address numbers are shown on Figure 4.18.

TABLE 4.1 : OLD BUILDINGS (to 1901) EXISTING IN 1992

OBJECT	ADDRESS	ORIGINAL NAME	CODE
house	1 Aland St		1
house	5 Aland St		2
house	7 Aland St		3
house	11 Aland St		4
house	16 Aland St		5
storage, grocer	36 Deane St	Benjamin's store	6
house	2 Hodgkinson St	Aldborough	995
house	3 Hodgkinson St		7
plant, industrial	19 Hodgkinson St	bakery	8
house	29 Hodgkinson St		9
storage	31 Hodgkinson St		10
house	35 Hodgkinson St		11
house	37 Hodgkinson St		12
School of Mines	24-26 Hodgkinson St	School of Mines	15
police lock-up	20-22 Hodgkinson St	lock-up	16
courthouse	28-32 Hodgkinson St	Court House	17
bell tower	134 Gill St	St Columba's Church	19
hotel	130-132 Gill St	Excelsior Hotel	20
shop	126-128 Gill St	Aridas Building	21
hotel	120-124 Gill St	Court House Hotel	22
shop	108-110 Gill St	Reardon's Caledonian House	23
shop	100-102 Gill St		24
shop	88-90 Gill St		25
shop	72-84 Gill St	Ross's Building	26
shops	68 Gill St		27
shop	58 Gill St	Davis & Co.	28
bank	52-56 Gill St	London Chartered Bank	29
shop	48-50 Gill St	Carses	30
bank	34-36 Gill St	Bank of NSW	31
shop	26 Gill St		32
shop	22-24 Gill St		33
shop	14 Gill St		34

TABLE 4.1 : OLD BUILDINGS (to 1901) EXISTING IN 1992

OBJECT	ADDRESS	ORIGINAL NAME	CODE
shop	1-7 Gill St	Ross's Building	35
shop	9-15 Gill St	Ross's Building	36
post office	17 Gill St	Post Office	37
shops	23-31 Gill St	Acker's Building	38
shops	57-61 Gill St		39
theatre	65-69 Gill St		40
newspaper office	73 Gill St	Northern Miner	41
office	77 Gill St		42
shop	85 Gill St	Marr's Arcade	43
meetinghouse	89-95 Gill St	MU Hall	44
shop	28 Bow St		47
printer's shop	26 Bow St		48
shop	83-85 Mosman St	Bright's Stock and Mining Exchange	60
shop	87-89 Mosman St		61
shop	99-101 Mosman St	Whitehead Building	62
shop	103 Mosman St	Smith Building	63
hotel	119-121 Mosman St	Clark's Crown Hotel	64
shop	129 Mosman St	Wattle & Dab Club House	65
hotel	131 Mosman St	Club House Hotel	66
shop and office	56 Mosman St	Buckland Building	76
Royal Bank and office	64-66 Mosman	Buckland's Building	77
bank	70-72 Mosman St	Qld. National Bank	78
bank	74 Mosman St	Qld. National Bank	79
shop	76 Mosman St	Royal Arcade	80
office	84 Mosman St	Bright's Mining Exchange	81
bank	86 Mosman St	Aust. Bank Commerce	82
shop	90 Mosman St	Lyall's Jewellery Shop	83
shop	96 Mosman St	Ineson Building	84
hotel	98 Mosman St	Prince of Wales Hotel	85
hotel	100 Mosman St	Royal Hotel	86

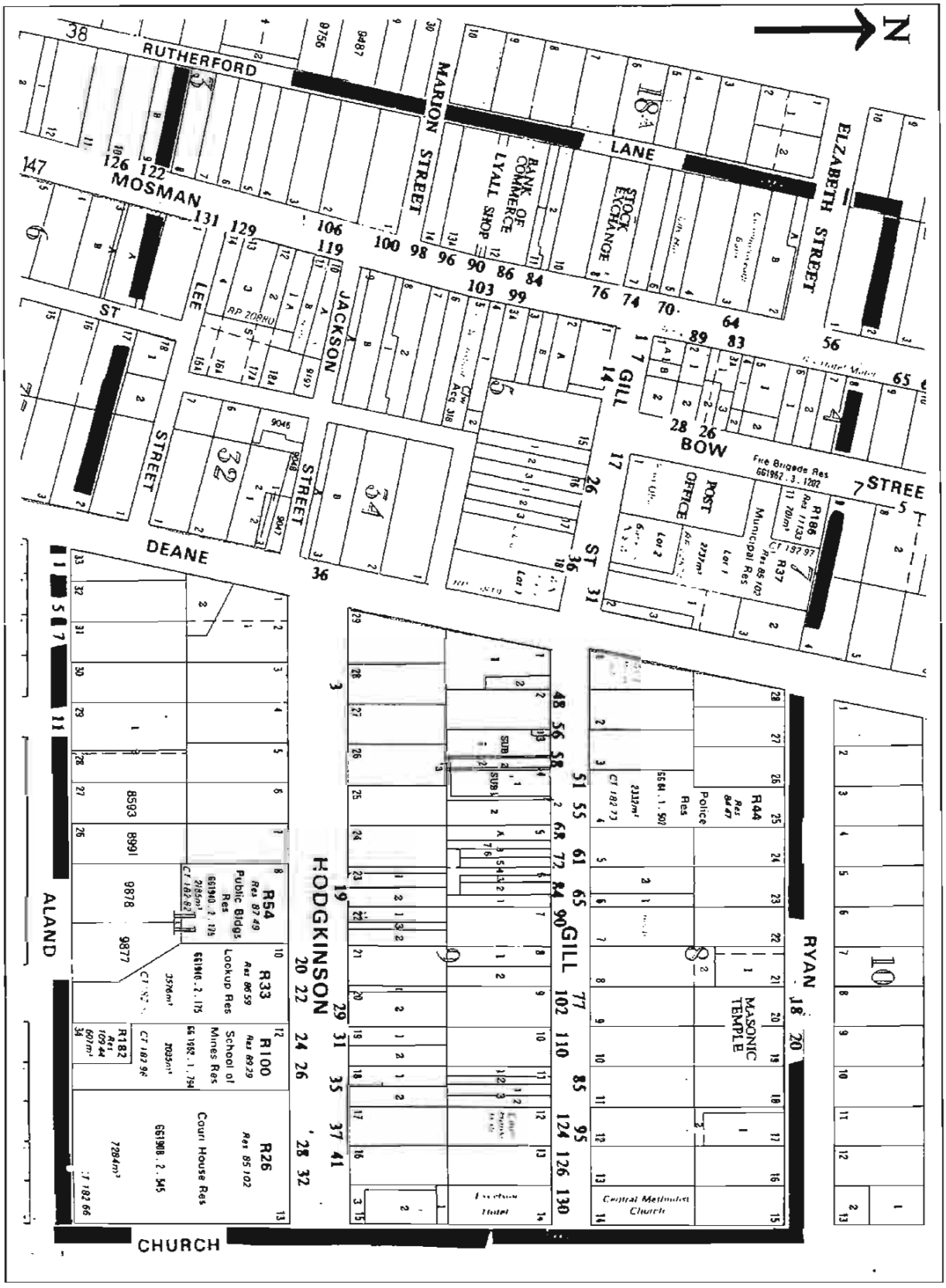


FIGURE 4.18 : STREET ADDRESS NUMBERS

Only seven substantial commercial buildings were added to the study area between 1901 and 1991 and five of these were built in the 1970's. The seven buildings are the police station (1910), D. Smith's Big Store (later Pollard's) in the 1920's, three banks (Westpac, ANZ, Commonwealth) and the Kern Plaza Supermarket in the 1970's. Six buildings are in Gill Street and the Kentucky Fried Chicken shop (1970's) is in Mosman Street at the corner of Elizabeth Street. There are small shops in Gill Street that appear to be from the period 1920-1950.

4.4.3 Buildings In Phases Of Development

4.4.3.1 First Phase 1872-1881

Threshold Events

There were three threshold events that prompted the first phase of development for the central commercial area. The events were the establishment of the mines on the Day Dawn reef, the marking of the town sections for business in Mosman Street and Gill Street in 1872 and the Telegraph Office in 1875. There were no buildings or structures that could be linked to the marking of the town sections or to the telegraph office. Menghetti (1984, p.93) said there was a post office in Mosman Street in 1877, but Roderick (undated) in his note to CTHP 3 concluded the post office failed to find a site in Mosman Street.

Historical Landmarks In First Phase - mining

Two buildings were linked to mining. Buckland's offices as a mining agent were in two 2-storey masonry buildings at 56 Mosman Street on Allotment 1 of Section 2 and at 64-66 Mosman

Street (Figure 4.10) on Allotment 3 of Section 1. Buckland was in Charters Towers in 1872 and he was trustee for the St. Patrick Block mining claim in Mill Street (Newcombe, c.1886). Both buildings are shown on photo CTHP 117 and Roderick (undated) concluded they existed before 1887.

Buckland's building at 64–66 Mosman Street is on photo CTHP 130 (Figure 4.16) which Roderick (undated) noted as pre-1878. The building once contained the Royal Bank and by 1922 accommodated the Commonwealth Bank (Charters Towers City Council, 1922) which stayed there until the 1970's.

Buckland's building at 56 Mosman Street accommodated his mining assay office and his business as a butcher. It was used by a butcher in the 1970's. Buckland & Symes had a slaughter yard north of Charters Towers, shown on Jack's (1878) map.

The date of photo CTHP 130 is questioned because the buildings on the photo at the north corner of Marion Street and Mosman Street are masonry (Romberg's and Ineson's buildings) whereas the same corner on photo CTHP 146 dated c.1878 has timber buildings. Photo CTHP 130 is more likely to have been taken in the period 1880-87 for two reasons. First, the photo shows the chimney of the second timber QN Bank and that chimney existed while the bank was on Allotment 6 in the period 1880-91 (Ian Black & Co. 1975), and second, the photo does not show the Royal Arcade which was built in 1887. The date of erection of Buckland's two buildings is taken to be around 1880.

Phase Buildings In First Phase

Five buildings from the first phase of economic and population growth from mining are described below in terms of their purpose for commerce, education and entertainment, the forms of Excellence in Achievement in Chapter 4.2.

Commerce - Banks

The first QN Bank on Allotment 5 of Section 1 in 1873 was a timber building (CTHP 59 dated c.1876) that was replaced in 1880 (Roderick (undated) note on CTHP 248 ; CTHP 267) by a single storey timber building with chimney, iron lace work on the roof and three gables at the front. That building was moved by 1891, for a new QN bank building (City Hall in 1992), to Allotment 7 where it stood without its chimney (CTHP 148) until at least 1922 as the Union Bank (Charters Towers City Council, 1922) between the new QN bank and the Royal Arcade (Fig. 1.1 ; CTHP 148). Later, the gables and iron lacework were removed and the remaining building was moved to the back of Allotment 7 where it stands (1992) behind vegetation in Foy Park (Fig. 4.15). The name A. F. Foy is on photo CTHP 59 (c.1876) on the gable of a timber building on Allotment 2 of Section 4.

Commerce - Shops

The two attached masonry buildings at the north west corner of Mosman Street and Marion Street are Romberg's Building (so inscribed in a pediment at the corner) on Allotment 14 and 13A of Section 1, and Ineson's building as it was described on Newcombe (c.1886) map, on part of Allotment 13A. Romberg

was one of those involved with the Day Dawn mines to the south at the top end of Mosman Street. The Newcombe (c.1886) map has the words Prince of Wales Hotel on Allotment 13A. The two attached buildings are shown on photo CTHP 130 which was dated 1878 but possibly taken in the period 1880-87. The photo shows Ineson was a draper and Romberg's Building contained "The Peoples Boot Mart" as well as the Prince Of Wales Hotel.

Education

The only old education structure in the central commercial area is a bell tower c.1880 in St. Columba's Church/school.

Entertainment

The Manchester Unity Independent Order of Oddfellows (MUIOOF) Hall, at 89-95 Gill Street on Allotment 12 of Section 8, was erected in 1880 (Walker 1978a) and it is shown on the Newcombe (c.1886) map as MU Hall. In 1995, it is reached through an arcade in shops that face Gill Street. The MUIOOF had a Star of the North Lodge in 1878 (CTHP 84).

4.4.3.2 Second Phase 1882-1885

Threshold Events

When the railway from Townsville reached Charters Towers in 1882 it was a threshold event. However the railway is located outside the study area and consequently there are no historic landmarks in the study area to link to this threshold event.

Phase Buildings in Second Phase

Entertainment - Hotels

The Excelsior Hotel, Court House Hotel and Caledonia House

(shops) can be identified in a photo (CTHP 154) in 1885 of Gill Street. The Excelsior Hotel, on Allotment 14 of Section 9 at the south-west corner of Gill Street and Church Street, is prominent because it has a corner position and it is on high ground. Power and Roderick (1977) say :

> When - - - Robert Rollinson purchased the Excelsior site, it would have been only useful as a paddock and perhaps as an investment if the town were ever to grow.(p.9).

Sharkey's (1875) plan CT 182.4 has the name R. Rollinson on Allotment 14. A town map (Newcombe,c.1886) shows the Excelsior Hotel as a building on Allotment 14 of Section 9 and the name W. Gough across this allotment and the adjoining corner site Allotment 15. Power and Roderick (1977) say Gough built the Excelsior Hotel on Allotment 14 and the Theatre Royal on Allotment 15 which "became the entertainment and cultural focus of the town"(p.9). The name W. Rollinson, presumably related to R. Rollinson, is shown on Allotment 14 on the Surveyor General's (1887) map. The name Rollinson has since been associated with grazing at "Nosnillor" 100 kilometres south of Charters Towers, and with the National Trust in Charters Towers. The Theatre Royal was demolished in 1970 (Zara Clark HP Vol.1, photo 5).

The present Court House Hotel is a two storey timber building with exposed studs and appears in the 1885 photo CTHP 154. For an unknown reason, the Newcombe (c.1886) map is not consistent with the date of 1885 for photo CTHP 154 because it shows the Court House Hotel building on Allotment 17, at the rear of its present site, near the Hodgkinson Street frontage. In 1991 there was a similar but much smaller two storey timber building with exposed studs and bracing at the rear of the hotel which may be "the Boys' School behind the Courthouse Hotel"

referred to in Menghetti (1984, p.436).

Commerce - Shops

The Caledonian House (CTHP 154) on Allotment 10 of Section 9 at 108-110 Gill Street was erected before 1885. It has three modules of shops with identical shop-fronts and roofs. At the rear of the building is a separate brick building with three modules that could have been used for stables or storage. In 1885 the occupants were Drummond and Co., draper, and next door on the same allotment was Bartlett, a tinsmith (CTHP 197).

The Whitehead Building on Allotments 3A and 4 of Section 5 at 99-101 Mosman Street was used by Whitehead & Co as a shop in 1890 (CTHP 181). The Whitehead Building appears on photo CTHP 130 which was taken in the period 1880-87. It is now a reception hall in conjunction with the adjoining Smith's building to the south on Allotment 5 at 103 Mosman Street. J. B. Whitehead, with H. Mosman and two others, had an interest in the lease of the "Hit or Miss Reef" at Millchester which is shown on mining surveyor Hacket's plan No 326 dated February 1875. Whitehead became a partner in the Venus Mill (existing 1991) which was first established by Plant in 1872 (Power and Roderick, 1977) at Millchester.

The adjoining building to the south on Allotment 5 of Section 5 was used by Fred Smith Mercer and Draper as the Red Coupon Cooperative Store (photo Zara Clark HP 243). The building is on photo CTHP 181 (c.1890) and was probably erected before 1887 since its awning can be seen on photo CTHP 130 (c.1880-87).

4.4.3.3 Third Phase 1886-1901

Threshold Events

The changes to company law made the trading in shares in local mining companies and the raising of capital for mining much easier and more responsive to new gold finds. The threshold event for further mining development in Charters

Towers was the establishment of share trading in Mosman Street.

Historical Landmarks

The first historical landmark is Alan B. Bright & Co. Stock and Mining Exchange, a one storey masonry building (CTHP 149, 204) erected before 1888, and internally divided into three units, at 83-85 Mosman Street on Allotments 3 and 3A of Section 4. Roderick (undated), in his note to CTHP 22, referred to Bright as a "noted stock broker". This building was later a Stock and Mining Exchange (CTHP 232). It also accommodated the London Chartered Bank of Australia and Hunter and Harte. The Newcombe (c.1886) map shows "Hunter and Harte" on Allotment 3A. Bright's building existed before the erection of the masonry building next to the south (see CTHP 232) on Allotment 2 at 87-89 Mosman Street which is inscribed 1888 in its pediment and also divided internally into three units.

The second historical landmark is the Royal Arcade, built in 1887, which accommodated the Stock Exchange from 1890. The Royal Arcade was built by Alexander Malcolm, a former miner, who first opened a shop in a simple timber building on the site. According to Power and Roderick (1977):

> Glass roofed arcades were a form of building that were popular in Europe at the close of the Nineteenth Century - they were the product of the Industrial Revolution.(p.1).

The third historical landmark is a one storey masonry building for Alan B. Bright & Co. Mining Agent at 84 Mosman Street on Allotment 11 of Section 1 that was erected before 1901. The building appears in a photo in Bolton (1980,p.149), which is from a 1901 Annual Report of the Mines Department and in the photo CTHP 116 which Roderick (undated) dates as c.1905.

A point arises which indicates that private owners provided the early street lighting. Before 1888, a street light hung from the front of Bright's building (CTHP 134, 232) which was similar

to those shown hanging from the former timber Northern Miner building in photo CTHP 215, from a former building on the left of the London Chartered Bank in Marsland (1892, p.13), and from a post in front of the post office in photo CTHP 257. Marsland (1892, p.2) says "The town is supplied with gas by a local company, and many of the large mills and some private establishments are lighted by electric light". If there was a public street lighting system in 1892 it is likely that Marsland (1892) would have included it in his list of the town's achievements.

Phase Buildings in Third Phase

Commerce - Banks

There are four purpose built bank buildings from the third phase of development that were in use as banks until at least 1922 (Charters Towers City Council, 1922). The first is the former London Chartered Bank Of Australia building (1886) at 52-56 Gill Street on Allotment 3 of Section 9 which is the furthest banking extended east in Gill Street from Mosman Street. In 1892, this two storey masonry building accommodated that Bank and Stephen J. Eddy Watchmaker & Jeweller at street level and Marsland & Marsland solicitors above (Marsland 1892, p.13). Both Marsland & Marsland and Eddy are names noted on Allotment 4 on the Newcombe (c.1886) map.

The former Bank of New South Wales was built in 1889 on Allotment 18 of Section 5 between two banks shown on Newcombe (c.1886) map that have since gone, the Union Bank on Allotment 15 and the Bank of Australasia (CTHP 288) on Allotment 19 at the corner of Gill Street and Deane Street. The Bank of Australasia building was used by the ANZ Bank (CTHP 220) in the 1960's until it was demolished for the present ANZ Bank in the 1970's. The Bank of New South Wales building is now the Council library. Westpac Bank, which is the renamed former Bank of New South Wales, is now located directly

opposite the old Bank of NSW. The Bank of New South Wales was earlier located in Mosman Street on Allotment 4 of Section 5 (Sharkey's (1875) plan CT 182.4) and later on Allotment 8 of Section 3 (Newcombe,c.1886).

In Mosman Street, the third QN Bank (now City Hall) was erected in 1891 on Allotment 5 and 6 of Section 1. The owners of Allotments 5 and 6 were Drury and Lissner respectively in 1874 (Johnson's (1874a) plan CT182.1) and in 1887 (Surveyor General (1887) map). According to Power and Roderick (1977), the QN Bank "had been described as an 'architectural ornament' to the City" and " was an imposing two storey building"(p.2). Power and Roderick (1977) note :

> It is often stated that it was the substantial credit balances of the Towers Banks that helped the State through the financial crash of 1893.(p.2).

The Australian Bank of Commerce at 86 Mosman Street on Allotment 12 of Section 1 was erected in 1891. In its former name of the Australian Joint Stock Bank it closed in the depression in 1893 along with some other banks. The Australian Joint Stock Bank was earlier located further south in Mosman Street on Allotment 4 of Section 3 . The site of the Australian Bank of Commerce was first used by Lissner for a shop and later occupied by Burns Philp (Newcombe,c.1886). The name Lissner was noted on the site on the Surveyor General's (1887) map.

Commerce - Shops

There are four shop buildings from the third phase of development.

Ross's Building, so inscribed in the pediment, is a two storey building on Allotment 1 of Section 4 at the northeast corner of Gill Street and Mosman Street. The building has the words "The Corner Shop - Fred Smith" on the wall in a photo in 1890 (CTHP 181). A photo in 1892 (CTHP 149) shows the same building carrying the words "Ross's Building - S. Carse manager -

Cooperative Cash Store". A photo in 1875 (CTHP 150) with the caption "View From Daking Smith's Corner" shows shows the site previously had a one storey timber building. The name Brodziak and Rodgers, presumably as owners, is on the allotment on Johnson's (1874a) plan CT182.1 and the Surveyor General's (1887) map.

The name Smith had a long association with retailing which included the building at 103 Mosman Street (Zara Clark HP 243) in the second phase of development, Ross's Building at 1-7 Gill Street in the third phase, and the D.S. & Co. "Big Store" (later Pollard's) at 18 Gill Street which was erected in the 1920's. An existing prominent old house named "Aldborough", at the south-east corner of Hodgkinson Street and Deane Street, was owned by Daking Smith (Charters Towers Dalrymple Development Bureau, 1987).

The one-storey masonry building at the western corner of Gill Street and Bow Street is another building that has the words "Ross's Building" inscribed in the wall. The Newcombe (c.1886) map shows the Union Bank on the site. This particular Ross's Building appears on photo CTHP 111 which Roderick (undated) said was taken c.1895. However a dating problem arises because photo CTHP 111 also shows the spire on the Post Office which was erected in 1898, according to Roderick (undated) in his note to photo CTHP 142.

A similar one storey masonry building is at the western corner of Deane Street and Gill Street, on Allotment 2 of Section 7, with the words "Ackers Building" in the pediment. Ackers was the original owner of Allotment 2 and adjoining Allotment 3 in Deane Street on Johnson's (1874a) survey plan CT182.1. The Newcombe (c.1886) map shows a building, smaller than the present building, and the words Ackers Wilson Ayton & Ryan. The Surveyor General's (1887) map has the word Ackers on the

site. In photo CTHP 187, which is dated 1890, there is a one storey timber building on which the words Ayton & Ryan are visible. Photos show the present building was the "Peoples Cash Store" (CTHP 111) in the 1890's and 1930's (CTHP 163).

On the west side of the former London Chartered Bank Of Australia at 48-50 Gill Street is a single storey timber shop on Allotment 2 of Section 9. This shop was occupied by Carse & Co (CTHP 110) and the words "Carses Carses Carses" are inscribed in the footpath. Marsland (1892, p.13) has a photo of the building on which is written "Miner's Arcade - Carse & Lauther - General Storekeepers & Importers". An S. Carse was the manager in 1892 of the Cooperative Cash Store (CTHP 149) in Ross's Building at the northeast corner of Mosman Street and Gill Street.

Commerce - Warehousing

There is a former grocery storehouse (CTHP 43), now Mitchell's Autoelectrics, at the corner of Jackson Street and Deane Street. This brick building serviced J. A. Benjamin's grocer shop on Allotment 9 of Section 5 at the north-east corner of Jackson Street and Mosman Street in the 1880's and 1890's. Mr. N. Mitchell has a large leather bound register of daily transactions from the grocery storehouse (or the grocery) to other businesses. The grocery storehouse was later used by P.W. Husband Motor Engineer whose father brought the first Cobb & Co. coaches and wagons to Charters Towers before the railway came in 1882. The Surveyor General's (1887) map shows the name Brodziak & Rodgers, possibly as owners, on both the storeroom site and the shop site. Mr. D. Husband said (personal communication 1992) there are many similar volumes of transactions associated with the storeroom which are held in various places in Charters Towers.

The shop was described by Bagnall (1979, p.96) as "the large business premises of Benjamin & Co. and at one period around

the turn of the century Mr. Benjamin was Mayor of the city". That corner shop is shown on the Newcombe (c.1886) map with a building and the name I. Lemel, who possibly preceded Benjamin. Photo CTHP 130 has the awning of a building in the location of Allotment 9 that advertised "Wine & Spirit Merchant - General". Later the shop site was used for the Tivoli Theatre for silent films and traveling shows (Bagnall 1979).

J. A. Benjamin owned land at the south-east corner of Aland Street and Church Street (Newcombe, c.1886 ; Surveyor General, 1887) on which there is now a very old brick building used for residential flats.

Commerce - Post Office

The two storey masonry Post Office at 17 Gill Street, at the north-east corner with Bow Street, is on land that was once a Police Reserve of 1.8 acres described as Allotment 1 of Section 7 on Johnson's (1874a) plan CT182.1. The Police Reserve was reduced to 1.5 acres by the widening of Bow Street from 60 links to 100 links on Sharkey's (1875) plan CT182.4. The Police Reserve was soon subdivided and the Newcombe (c.1886) map shows a 'Post Office' building on Allotment 11, a quarter acre in area at the north-east corner of Gill Street and Bow Street, and a 'Municipal Chambers' building on Allotment 1 to the east of the post office, in Gill Street. The Newcombe (c.1886) map shows the 'Municipal Chambers' building set back from the street frontage, towards the centre of its site. The words 'Post Office' and 'Municipal' are shown on those allotments on the Surveyor General's (1887) map. The Police Reserve did not appear on the land on either map.

An early post office building, on the eastern corner of Gill Street and Bow Street, was a single storey timber building (CTHP 3) until a second storey was added (CTHP 246). It was called a Post and Telegraph Office (CTHP 277). The timber post office

was moved to the next allotment to the east in Gill Street, Allotment 1, where it was then used as a Town Hall (CTHP 21), set back from the front boundary of the site (CTHP 163), and later used as a Day Nursery (Zara Clark HP 232).

The present masonry post office building replaced the timber post office in 1892 and the spire was added in 1898. Photo CTHP 257 (undated) shows the masonry post office before the spire was added (1898), and with a street light on a pole at the kerb. The timber ex-post office was demolished around 1970 and the Westpac Bank is now (1995) on that site.

Roderick (undated), in his note to CTHP 3, refers to the ex-Post Office building, when on the municipal site, as "in front of the old Court House Building". That court house may have been associated with the Police Reserve in Section 7 on survey plans CT182.1 and CT 182.4 dated 1874 and 1875 respectively. The present Court House in Hodgkinson Street existed c.1887, five years before the timber post office was relocated for the building of the present post office. Dungavell (1950,p.6) has a photo "old court house - situated where the old Town Hall building stands in Gill Street". Roderick's (undated) note to CTHP 186 refers to the "First Court House, Charters Towers" which is a timber building in the photo at an early stage of the area when there was a tree on the site. The background topography in the photo is consistent with the topography to the north-east from the present Westpac Bank. While the Newcombe (c.1886) map shows buildings for the former post office, town hall and fire brigade, and the Surveyor General's (1887) map notes a Post Office and Municipal, neither map refers to a court house.

There is a question whether the first courthouse was on the present Courthouse site in Hodgkinson Street, or on the present Westpac Bank site in Gill Street. A plausible explanation is that

there were two court houses. Marsland (1892) in his discussion of the physical and social infrastructure of Charters Towers at that time refers to "the Court Houses, Police Court and Warden's Court"(p.3). The present court house at the south-west corner of Hodgkinson Street and Church Street now accommodates both the Magistrates Court and the Mining Wardens Court, with offices in an eastern extension.

Commerce - Mining Law - Court House

The Mining Warden's Court House is a masonry one storey building. Roderick's (undated) note to photo CTHP 182 described the present building as the 'New' Court House c.1887. It replaced a timber court house on the same site. There is a photo CTHP 131 "View from the back of the Court House" dated 1878 which fits with the present location of the Court House in Hodgkinson Street to the extent that the background data, which includes St. Paul's Church in upper Mosman Street, is correct.

Hotel

The Royal Hotel at the south-west corner of Mosman Street and Marion Street, on Allotment 1 of Section 3, is a two storey masonry building erected in 1888. This date is inscribed in the wall. An early wooden hotel is shown on this corner in photo CTHP 146 c.1878.

Newspaper

The present masonry Northern Miner newspaper building at 73 Gill Street, on Allotment 8 of Section 8, was erected around 1900 (CTHP 279). It replaced the one storey timber Northern Miner building appearing in photo CTHP 215, which also shows the side of the present Regent Theatre on the left. Photo CTHP 262, showing the Northern Miner headboard, is captioned Northern Miner Charters Towers 1883, but it shows a building that is different to that on CTHP 215. The former Northern Miner building is shown on the Newcombe (c.1886) map.

Theatre

The Regent Theatre, on Allotment 7 of Section 8 was, from the evidence of photo CTHP 215, built before the present Northern Miner building.

Education - Tertiary

The School of Mines at 24–26 Hodgkinson Street, on Reserve R100, was established in 1901 (Menghetti, 1984,p.209). It is a timber building with exposed frame studs and is next to the masonry Court House. The School of Mines is important because it influenced the advancement of mining. It was recently reopened for employment training.

4.4.4 Summary of Analysis

The analysis of the three phases has considered 31 of the existing 50 commercial and government buildings erected between 1872 and 1901 in the central commercial area.

Table 4.2 below lists each building in the preceding analysis against the phase of development and the achievement it represents. In column 1, the threshold events for each phase are in bold and the achievement related to each building is below the threshold event. The letters 'H.L' mean the building is an historic landmark for that threshold event. The character "*" means the building was noted in the global and affective assessment in Chapter 4.3.

A point from Table 4.2 is that the global and affective assessment noted mainly the large prominent buildings from the third phase of development, and only two of the five historical landmark buildings. This pattern in the assessment indicates the quality values of Size and Magnificence in Table 2.2 are strong indicators of this observer's attention to old buildings.

TABLE 4.2 : BUILDINGS IN 3 PHASES OF DEVELOPMENT

Phase, threshold event, achievement		Building Name & Address
Phase 1 : 1872-81		
mining, town sites, telegraph		
mining (H.L.)	*	Buckland Building, 56 Mosman
mining (H.L.)		Buckland Building, 64-66 Mosman
commerce		Timber QN Bank, 74 Mosman
commerce		Ineson Building, 96 Mosman
commerce		Romberg Building, 98 Mosman
community facility		MUIOOF Hall, 89-95 Gill
community facility		St. Columba Bell Tower, 134 Gill
Phase 2 : 1882-85		
railway		
commerce	*	Whitehead Building, 99-101 Mosman
commerce	*	Smith Building, 103 Mosman
commerce		Caledonian House, 108-110 Gill
community facility	*	Excelsior Hotel, 130-132 Gill
Phase 3 : 1886-1901		
limited liability, share trading		
commerce	*	QN Bank (City Hall), 70-72 Mosman
mining (H.L.)	*	Royal Arcade, 76 Mosman
mining (H.L.)		Bright Mining Exchange, 84 Mosman
mining (H.L.)		Bright Mining Exchange, 83-85 Mosman
commerce	*	Aust. Bank Commerce, 86 Mosman
commerce		Foy Building, 87-89 Mosman
community facility	*	Royal Hotel, 100 Mosman
commerce	*	Ross's Building, 1 Gill
commerce		Ross's Building, 9-15 Gill
community facility	*	Post Office, 17 Gill
commerce		Ackers Building, 23-31 Gill
commerce	*	Bank of NSW 34-36 Gill
commerce		Carses Building, 48-50 Gill
commerce	*	London Chartered Bank, 52-56 Gill
community facility	*	Regent Theatre, 65-69 Gill
community facility	*	Northern Miner, 73 Gill
community facility	*	Court House Hotel, 120-124 Gill
commerce		Grocer's warehouse, 36 Deane
community facility	*	School of Mines, 24-26 Hodgkinson
community facility	*	Court House, 28-32 Hodgkinson

Notes : The letters 'H.L' mean the building is an historic landmark for that threshold event. The character "*" means the building was noted in the global and affective assessment in Chapter 4.3.

Conjunction Of Old Buildings With Phases Of Development

First Phase 1872-81

For the first phase of 1872-81 there are two historic landmarks to mining but none to the telegraph. The historic landmarks and the phase buildings from the first phase are situated near the extremities of the T-shaped central commercial area and this fact supports the impression in the global and affective assessment that the heritage area comprises the buildings with frontage to Gill Street and Mosman Street between Church Street, Marion Street and Elizabeth Street.

Second Phase 1882-85

For the second phase there are no historical landmarks. There are three shops and a hotel from the general development in this phase. These four phase buildings are more substantial than those in the first phase but only one, the Excelsior Hotel, was noted in the global and affective assessment.

Third Phase 1886 -1901

From the third phase of development, which was brought on by liberalized laws for mining company liability and overseas investment, there are three historic landmarks related to share trading, fifteen phase buildings for commerce and six phase buildings for community facilities. The buildings from the third phase are generally more substantial, and designed to appear more substantial, than those in the second phase. The global and affective assessment noted thirteen of the twenty-one buildings from the third phase.

4.4.5 Assessment of Area

4.4.5.1 Area's Contributions to Town's Achievements

The commerce buildings occupied by mining agents and banks represented mining investment. The other commerce buildings were for shopping. The buildings for community facilities were for school and tertiary education, fraternal advancement, socializing, entertainment, information and social knowledge and for social order, and in a more general sense for education and social cohesion. Consequently, the 31 old buildings in Table 4.2 represent mining investment, shops and community facilities for education and social cohesion.

With reference to Charters Towers achievements (Chapter 4.2.2), mining investment was a part of the town's achievement in mining, shops were a part of the town's achievement in commerce and the cultural facilities for education and social cohesion were a part of the town's achievements in social facilities for education and entertainment.

4.4.5.2 Spatial Pattern in Historical Conjunctions

From the addresses of the old buildings and their original purposes in Table 4.2 it is clear that the old buildings for mining investment were originally located in Mosman Street, some old buildings for shops were in Mosman Street but most were in Gill Street and the old buildings for cultural facilities were at the eastern end of the area near Church Street. This accords with the structure in central commercial areas in other places and can be explained by the ability of establishments for each of those

three purposes to pay for their preferred location.

In the western part of the central commercial area in Mosman Street, the two Buckland buildings, the Royal Arcade (stock exchange) and the two Bright buildings are historical landmarks for mining investment. At least four of these five buildings also had the original function of a shop and two also housed banks. These five historical landmarks were complemented by the QN Bank and the Australian Bank Commerce nearby.

In the central part of the commercial area, the Post Office was a visual landmark but it was not an historic landmark. Its site was the probable location of the first telegraph station in 1874 or 1875. Its size, its central location amongst the shops and its function made it a focus of attention in Gill Street.

There was no evidence of historical landmarks in the eastern part of the central commercial area to mark the initiating events in any of the three phases of development. However, two early structures (c.1880) which were part of the general growth in the first phase of development are the MUIOOF Hall and St. Columba's Church/school Bell Tower. The eastern part of the central commercial area was given an identity of education and social cohesion by these two buildings and the Regent Theatre, Northern Miner newspaper, Excelsior Hotel, Court House and School of Mines.

Delineation of Heritage Area

The global assessment (ch.4.3) found that the heritage area should be the properties fronting the parts of Gill Street and

Mosman Street that are between Church Street, Marion Street and Elizabeth Street. The analytical assessment has verified that aspect of the global assessment.

The global assessment did not include any part of Hodgkinson Street in the on-site perception of the heritage area. However, the analysis has shown that the School of Mines and the Mining Warden's Court House are part of the cultural facilities for education and social cohesion. Consequently, these two buildings should be included in the heritage area.

4.4.5.3 Meaning Attached To Central Commercial Area

The meaning that can be attached to the central commercial area, through the 31 old buildings, is :

The central commercial area contributed to the town's tradition of excellent achievements in mining, commerce and cultural facilities for education and entertainment established during the town's three phases of development to 1901 by providing the central area functions of mining investment, shops and cultural facilities for education and social cohesion from its western, central and eastern sections respectively.

The central commercial area provided the buildings for services in mining investment, shopping and cultural facilities which helped the town to function while the town's people worked towards their achievements in gold mining, commerce and cultural facilities over the full extent of the town.

4.4.6 Evaluation Of Assessment of Heritage Area

The assessment of the central commercial area was evaluated in three stages : against the Principle of Historic Precinct, against requirements for authenticity for tourism and against the two Criteria of Enjoyment and Tradition for Visitors and the Principle of Visitation (ch.2.6.2).

4.4.6.1 Principle Of Historic Precinct

The evaluation, summarised below, was that the assessment satisfied the Principle of Historic Precinct.

The assessment provided an easily recognised boundary of the area, the area demonstrates its original purpose by continuing to be used for that purpose, the area demonstrates the growth and decline in economic prosperity by its large buildings and the contraction of business activity in the area, it provides a recurring theme of excellence in achievement in three land use themes that are traditionally found in old inner city business areas, it represents a heritage of interactions with the natural gold resource which is continuing, and a visitor can be given the links between the existing old buildings and the important events and three phases of economic and cultural development that occurred in Charters Towers between 1872 and 1901.

4.4.6.2 Authenticity For Tourism

Visitors look for authenticity in historic areas and Moscardo and Pearce (1986) proposed three criteria to establish whether an area is likely to appear authentic to a visitor. The criteria centre around whether the area is presented as authentic, is seen to be

authentic and offers an appreciation of a past society or culture.

The assessment established a set of buildings from the period 1872 to 1901 in Table 4.2 that is authentic in regard to the early development. Those buildings are sufficiently dense and prominent to give the whole setting the appearance of being authentic. A visitor's evaluation of the central commercial area, using the first criterion, is likely to be influenced by the amount of time a visitor has to make the connections of authenticity between the old buildings and the phases of development. If the connections are made they may be sufficient to overcome the effect of recent buildings amongst the old buildings.

There is no obvious conclusion that the area will meet the second criterion for a visitor. The global assessment has noted gaps between buildings, particularly in Mosman Street, while in Gill Street there are instances where old buildings have been replaced. There is no untouched "back region" (Moscardo and Pearce, 1986) where everything is true to what it used to be. However, the commercial area can be seen to be authentic if it is understood to have evolved through a number of phases of development and a longer cycle of growth and decline, and to have retained the buildings that have important associations with each time period.

The area meets the third criterion because it offers visitors the chance to appreciate the achievements of people who developed an advanced gold mining town.

4.4.6.3 Criteria of Enjoyment and Tradition for Visitors, and Principle of Visitation

Criterion of Enjoyment

The purpose of the area is clear from both the global and analytical assessments. The area has special features in the form of the landmark buildings that were noticed in the global assessment, before the analytical assessment. The area is large but not incomprehensible during a visit.

There is an opportunity for an association with greatness in the development of north Queensland. The presentation of greatness is obvious in some "grander" buildings but it is not supported in stories of great achievements in mining and cultural development generally. This situation may be due to the decline in population. The presentation of greatness may be crucial to the use of the area for tourism.

Some existing displays of artifacts, the interiors of some buildings and the two main streets themselves offer the opportunity to fantasize about life in earlier times which is a form of self-entertainment.

Criterion of Tradition

The statement of meaning that was attached to the area (ch.4.4.5.3) is based on a tradition of excellence in achievement which meets the requirements in the Criterion of Tradition.

Principle of Visitation

The area has the physical basis for successful visits but there is much to be done to make the visits entertaining. The area

partly meets the objectives in the Principle of Visitation (ch.2.6) since, as the assessment has shown, there is an opportunity to promote the area as having a tradition of excellence in achievement, with care to avoid "boosterism", and an educational side benefit. But, the area is unlikely to provide entertainment in association with intellectual stimulation unless the traditions are weaved into interesting and entertaining stories of the people who once contributed to the history of interaction in the area.

The area does offer the opportunity to learn about the history of settlement in north Queensland, an educational side-benefit.

4.4.7 Limitations in Assessment

A substantial limitation in the assessment in Chapter 4.4 is the absence of interesting stories associating the old buildings with the people who inspired and carried out the achievements in Charters Towers. There was a small core of people who were associated with one or more of the three phases of development. Lissner and Buckland, for example, appear to have been involved in the three phases of development. Other names involved in the development phases were Brodziak and Rodgers, Mills, Pfeiffer, Rollinson, Romberg and Smith. The conjunction between the historical landmarks and the threshold events could be given more meaning by a description of the activities of the leaders in the development of the central commercial area who set the scene for each subsequent phase of development by themselves and others.

The second limitation is that the assessment considered only 31 of the 50 old non-residential buildings listed in Table 4.1. More data to connect the other 19 buildings to their original purpose would help to overcome the limitation.

A third limitation in the assessment for visitors is that a knowledge of history is required. An image that a visitor can take away is summed up in the statement of meaning (ch.4.4.5.3) but the visitor is likely to have limited time for an inquiry, perhaps a few hours, in which to understand how the meaning was derived. It could be improved by a story associated with a person or event which illustrates the points in the statement of meaning.

4.4.8 Inspiration For Future Development

The meaning that was attached to the area can inspire the direction of future land uses and their location within the area.

Charters Towers still carries out what it has always done best, namely gold mining, commerce, education and music and servicing the surrounding pastoral community. The new mines are outside the city area and there has been a tendency for new businesses in mining and shopping, but not banks, to locate outside the central commercial area in the residential parts of the city. The dispersion of commercial development and mining offices means there are less people with economic purchasing power in any one commercial area of the city and the providers of higher order commercial functions are less likely to invest in Charters Towers.

As a general statement, a cultural tradition provides a pattern to do something in an efficient manner, and without tradition there is a danger of reinventing a 'cultural wheel'. The central commercial area provides an established model for concentrating future commercial development rather than allowing it to disperse and delay the inception of higher order functions for the community. If Commissioner Charters in 1872 had allowed businesses to set up anywhere in the goldfields it is unlikely that the concentration of mining exchange agents, finance houses and shops would have occurred and allowed the setting up of the stock exchange as a higher order commercial function which in turn assisted the further development of mines.

The central commercial area is an inspiration for future planning because it has buildings that reinforce a tradition of excellence in commercial development and it provides opportunities to rebuild the concentration of commercial activity that once existed there. The heritage area is a symbol of achievement that can encourage the spirit of further achievement, but not necessarily facsimiles of the past.

The three traditional spatial arrangements of mining investment in the west, shopping in the centre and community facilities in the east are a pattern to maintain cohesion in these three central city functions.

In Mosman Street, the former QN Bank and Australian Bank Commerce are now used for local government administration and local government cultural activities. Opposite the former banks are two former shops, Whitehead's and Smith's, which are also used for local government cultural activity. The use of the part of Mosman Street immediately south of Gill Street has changed from organized investment to local government administration and cultural activity but it still has an emphasis on corporate activity rather than shopping. There is scope to reinforce the historic identity of organized corporate activity with businesses and offices associated with mining, investment and administration.

4.5 Assessment For Aesthetic Ideal

4.5.1 Introduction

The reason for the second assessment of the central commercial area is :

To find whether the exteriors of the old and new buildings together represent an Aesthetic Ideal.

The area is assessed for the purpose of Aesthetic Ideal and Aesthetic Enjoyment on the premise in Chapter 2.2.7 that an area of buildings that meets an aesthetic ideal will be enjoyed.

Method of Analysis

The analysis for the purpose of architectural aesthetics used the Sub-model of Aesthetics with the analytical tools named in Chapter 2.7.2.1. These tools are the concept of Area Architectural Character, the concept of Landmark, the criterion of Area Architectural Quality and the Principle of Historic Precinct which are stated in Chapter 2.6.2. The assessment considers the buildings erected up to 1901 that are listed in Table 4.3 and those erected after 1901. Table 4.3 includes brief details of the number of stories, function and materials. The buildings which were included in the previous assessment in Chapter 4.4 have the street number in their address underlined.

TABLE 4.3 : Old Buildings : Commercial Functions and Building Types

Main Function, Building Type, Name, Date	Street Address
Mining Investment	
2 storey brick Royal Arcade 1887 (Stock Exchange 1890)	76 Mosman
1 storey timber QN Bank 1880	74 Mosman
2 storey brick, wood verandah London Chart. Bank 1886	52 Gill
2 storey brick QN Bank 1891 and ABC Bank 1891	70 and 86 Mosman
2 storey brick Bank of NSW 1889	34 Gill
2 storey brick & timber verandah, clerestorey, Royal Bank, Buckland's 1880-7	64 Mosman
1 storey brick Bright's mining exchanges(2), c.1885, c.1900	83 and 84 Mosman
2 storey brick, wood verandah, Buckland mine agent 1880-7	56 Mosman
Shopping	
2 storey brick Ross's c.1887	1 Gill
1 storey timber, 1 shopfront	26, 68, 100 Gill
1 storey timber, 1 shopfront, awning to kerb	26 Bow
1 storey brick, 1 shopfront, kerb awning	77 Gill
1 storey brick, 1 shopfront, clerestorey	14 Gill
1 storey brick, 1 shopfront	28 Bow
1 storey brick, 1 shopfront, Ineson, Smith, 1880-7	96, 103 Mosman
1 storey timber, 2 shopfronts, Carses	48 Gill
1 storey brick, 2 shopfronts, cantilever awning	126 Gill
1 storey brick, 2 shopfronts, kerb awning	22, 57, 85, 88 Gill
1 storey brick, 2 shopfronts, clerestorey, kerb awning, Whitehead 1880-7	99 Mosman
1 storey brick, 3 shopfronts, Ross's ; Ackers c.1898 ; Caledonian c.1885	9, 23, 108 Gill
1 storey brick, 3 unit shop storehouse for Caledonian c.1885	31 Hodgkinson
1 storey brick, 3 shopfronts 1888	87 Mosman
1 storey brick, 7 shopfronts, Ross's	72 Gill
1 storey timber, small, 1 shopfront, kerb awning	26 Gill
1 storey brick, 1 shopfront, small	58 Gill
1 storey brick, 1 shopfront, small, Lyall 1890	90 Mosman
1 storey brick grocer storehouse, Benjamin's c.1889	36 Deane
1 storey brick bakery (rear of 72 Gill)	19 Hodgkinson
Community Facility	
2 storey brick Post Office 1892, clock tower 1898	17 Gill
2 storey timber hotel Court House c.1885	120 Gill
1 storey brick hotel, Prince of Wales (Romberg) 1880-7	98 Mosman
1 storey brick hotel, former 2 storey, Crown c.1885	119 Mosman
2 storey brick hotel, wood verandah. Excelsior c.1885	130 Gill
2 storey brick hotel, wood verandah, Royal 1888	100 Mosman
1 storey brick Regent Theatre c.1900	65 Gill
1 storey brick Northern Miner newspaper c.1900	73 Gill
1 storey brick MUIOOF Hall 1880	89 Gill
bell tower, St. Columba Church/School 1880	134 Gill
1 storey timber School of Mines 1900	24 Hodgkinson
1 storey brick Warden's Court House c.1887	28 Hodgkinson

4.5.2 Previous Assessments of Area

Ian Black & Co. (1975), made this assessment of the area in the context of a discussion of redevelopment in the central city area :

> While there are few buildings of exceptional architectural merit within the Charters Towers City area the majority would be considered to be ordinary - this is not relevant to the situation being studied. The townscape gains its quality from the whole situation ; the collection of buildings, good, brash and extraordinary, that makes a town that developed with great rapidity to make a 'Gold' city of great energy 'unrivalled in the Empire' (paragraph 2.11).

However they do not describe how, or where, they find quality in the townscape. Power and Roderick (1977) say that except for the colonial style Club Hotel "every other prominent building is so very 'Victorian'"(p.3). The Club Hotel is in Mosman Street and south of the study area.

Walker (1978a) was enthusiastic about the architecture and history of Charters Towers. Walker proposed a conservation area of about one kilometre square, centred on Town Section 4 in Gill Street. Her conservation area extended to King Street in the west, Mosman Creek in the north, Boundary Street in the east and Towers Street in the south.

Both Ian Black & Co. (1975) and Walker (1978a) sought to have Charters Towers City Council prepare a conservation policy to manage redevelopment in the central commercial area.

Neil Black (1989) used photos of the Charters Towers central commercial area, in the vicinity of the Mosman Street and Gill Street intersection, in his study of preference ratings of five heritage precincts in Brisbane, Charters Towers and Rockhampton. He used a predictive model with three dimensions, 'size', 'clarity of purpose' and 'special features' to rank the area third of the five. He then presented photos and maps to people, not in Charters Towers, for their preferences

among the five precincts. Those people ranked the Charters Towers precinct the lowest of the five.

Black (1989) described his Charters Towers Precinct and another precinct in his study as having a "mixture of size and design"(p.410). He said : "For those 'disjointed' precincts it would appear that the whole may be equivalent to the sum of their parts". For two other precincts in his study, neither in Charters Towers, he said they : "exhibit a cohesiveness, a similarity of building style in size and design within each precinct and were perceived as being more than just a sum of individual buildings"(p.410).

4.5.3 Analytical Assessment for Aesthetic Ideal

4.5.3.1 Prominence and a Principle of Coordination

There are visually prominent buildings across the central commercial area that function as landmarks and to some extent establish an architectural and functional identity for their immediate area. They were stated in the global and affective assessment in Chapter 4.3 to be the Post Office and Excelsior Hotel in Gill Street, Ross's Building at the intersection of Gill Street and Mosman Street, and the QN Bank (City Hall), Australian Bank Commerce and Royal Hotel in Mosman Street. The Royal Arcade has become well known and it establishes an identity for its immediate area.

In the first two phases of development to 1886 the buildings, including the Excelsior Hotel, generally had footpath awnings or footpath verandahs. In the third and major phase of rebuilding between 1886 and 1901 the masonry buildings above, other than the Excelsior Hotel, have a different form, a facade of columns and porches behind the property line rather than awnings or verandahs in front of the property line.

One minor but surprising point of common architectural detail in three existing old buildings is the hemispherical shape of

the pediment on the Royal Arcade (Figure 4.14) and the hemispherical outline of the large window in D. Smith's Big Store (Figure 4.13) which mimic the hemispherical shape of the pediment on the earlier Prince of Wales Hotel (Figure 4.12).

Some large shops that have a simple roof ridge extending from front to rear also have a clerestorey erected on the ridge line for ventilation and natural lighting in the main building below. However, this feature is not so prominent as to be a leading characteristic to unite the buildings.

Coordinating Principle

Two types of buildings, with prominent architectural details, offered two coordinating principles to unite the architectural detail in the area (ch.3.5.2). The two types were the two storey timber buildings with footpath verandahs and the masonry buildings with hemispherical roof or facia detail, large columns on the facade or small columns on the parapet.

4.5.3.2 Analysis of Area Architectural Character

The analysis of architectural character draws on the coordinating principles above, the typology of scale, form and materials in the description of existing (1991) old buildings in Table 4.3 and on the buildings erected after 1901.

Historical Perspective on Architectural Character

The historical photos in Figures 4.16 and 4.17 indicate that in the period to 1901 there was no congruency of scale or form throughout the buildings in the part of Mosman Street between Gill Street and Marion Street. These photos indicate a random arrangement of one and two storey buildings, timber or masonry, with and without awnings or verandahs, and with vastly different frontages as seen on Johnson's (1874a) survey plan CT182.1.

In Mosman Street, between Gill Street and Elizabeth Street, there was more architectural congruency in which pairs of adjoining buildings were two storey and timber with verandahs

over the footpath. An example of such a pair is in the photo taken in 1901 in Figure 1.1. That photo shows the former Collins Exchange Hotel and part of the existing Buckland building at 76 Mosman Street in the right of the photo.

On the opposite side of Mosman Street between Miles & Co. Mining Exchange and Bright's Mining Exchange, the frontage now occupied by the Rix Hotel on Allotments 4 to 8 of Section 4, there were buildings similar to Buckland's. These buildings can be seen in Marsland (1892,p.x) and in the historic photo CTHP 134.

In Gill Street there were isolated instances of pairs of adjoining buildings that were similar in scale form and materials, such as the existing Regent Theatre and Northern Miner, and the former Occidental Hotel and former Benham's Hotel. The last pair were on the south-east and north-east corners respectively of Gill Street and Deane Street. They were similar in appearance to the existing Excelsior Hotel. Even though there were pairs of buildings of similar architectural characteristics, the overall appearance of Gill Street, as judged from historic photos, was of a fairly incongruent arrangement of scale and form in buildings.

Current Perspective on Architectural Character

Table 4.3 does not indicate any consistent architectural character in any part of the area. This conclusion is made because there are few instance in Table 4.3 where buildings with the same height, form and material have neighbouring street addresses, even when the number of shopfronts is disregarded as a characteristic.

Gill Street

The buildings in Gill Street, old and new together, are generally similar in terms of their one storey height, parapet and gable details, and masonry construction, but not in their form. In regard to form there are buildings of various widths, buildings

without awnings, some awnings are supported by posts while others are cantilevered, and some buildings provide a uniform facade at the street frontage while others have a recessed entrance.

On almost all shop buildings, the top of the street facade is ornamented with an artistic feature such as :

> a parapet in the form of closely spaced balusters or columns topped by a rail ; one or more pediments or false gables, in the form of a triangle ; one or more rectangular recessions in the facade to contain the name of the building or other wording.

The parapet and gable details are the one continuous element in the architecture of old buildings that is a binding thread throughout the area, but the thread has to be looked for.

A pair of buildings of similar scale, form and materials are the Regent Theatre and Northern Miner at 65-73 Gill Street (Figure 4.9).

The Excelsior Hotel and the Court House Hotel at 130-132 Gill Street and 120-124 Gill Street respectively are similar in scale and form, but different in material, and they are separated by the Aridas Building which has a different scale and form.

Mosman Street

On the eastern frontage of Mosman Street, there are two pairs of one storey masonry buildings that have similar scale, form and materials. They are the Bright and Foy buildings at 83-89 Mosman Street and the Whitehead and Smith buildings at 99-103 Mosman Street. They are well separated being respectively to the north and south of Gill Street.

The western frontage of Mosman Street has no continuity in scale, form and materials (see Figures 4.10), except for the two abutting one-storey masonry buildings, Romberg's and Ineson's, at 96-98 Mosman Street (see Figure 4.12). The Lyall Jeweller building at 90 Mosman Street, which adjoins the preceding pair on their north, is also a one storey masonry building but it is very different in form. The Royal Arcade has similar material and scale to the Australian Bank of Commerce and the QN Bank (City Hall) but a very different form. The Australian Bank Of Commerce and the Queensland National Bank are similar in form, scale and materials but they are separated by very different buildings.

The analysis of Area Architectural Character has established there are many combinations of scale, design and materials in the buildings across the central commercial area and the only continuous link across the buildings is the detail in the parapets and gables.

4.5.3.3 Unity in Scale, Design and Materials

There is one continuous section of Mosman Street, Gill Street and Bow Street where the criterion of Area Architectural Quality is met. The contiguous parts are based around the landmark of Ross's Building (Figure 4.11) at the north east corner of Gill Street and Mosman Street. The Ross building landmark at 1 Gill Street gives the architectural identity to its immediate area through its architectural scale, form and detail. The Ross building with its two stories is a contrast in scale but not in form,

materials or detail with the buildings on either side. The Ross Building landmark is complemented on its north side by the Bright and Foy buildings (Figure 4.11) at 83-89 Mosman Street, and on its east it is complemented by the Ross building at 9-15 Gill Street to the Bow Street corner and the building at 28 Bow Street (Figure 4.9).

In the next section of Gill Street to the east, the two-storey Post Office at the corner of Bow Street has pediments, curved window openings and material that are similar to those on the one-storey masonry Ackers building which extends around the Deane Street corner. The two buildings are, however, separated by the Westpac Bank (1970's) which is different to both buildings in its form, detail and materials.

4.5.3.4 Conclusion

The study area does not have a congruent set of architectural characteristics and does not represent an aesthetic ideal in the terms of the method of assessment. Only one street frontage of the area, from 83 Mosman Street and along the north side of Gill Street to 28 Bow Street, has an aesthetic quality as defined in the thesis.

4.6 Summary

4.6.1 Assessment of Area

The assessment of the study area was made from two perspectives, for excellence in achievement to the year 1901 and for an aesthetic appreciation of the exterior of all buildings considered together over the area.

The first assessment found the central commercial area, through its old buildings, contributed in three significant matters to the building of a culturally advanced inland town based on gold mining in the last quarter of the nineteenth century. The heritage area was delineated from the study area on Figure 4.1 by the global assessment and subsequent analysis for the purpose of excellence in achievement.

The second assessment found the building exteriors in the heritage area did not provide an aesthetic experience, except in one section of street frontage from Mosman Street through Gill Street to Bow Street.

The assessments used the Model of Environmental Assessment and its Sub-models of Time and Aesthetics, together with complementary concepts for assessment from Chapter 2.

4.6.2 Implementation Of Quality Values

The analysis in Chapter 4.4 implemented most of the Quality Values for assessments that were hypothesized in Chapter 2.2 and listed in Table 2.2. For example, the historical literature for Charters Towers in Chapter 4.2 argued that Charters Towers

represented a High Achievement for its era and purpose. The use of historic photos to determine the age and original purpose of old buildings has verified that the old buildings in Table 4.1 have the quality of Authenticity In History and it established their Authenticity In Original Purpose.

The first assessment in Chapter 4.4 found an historic theme for the area which implements the quality value of Representatives of Historic Theme. The second assessment in Chapter 4.5 implemented the quality values in the Aesthetic Group.

4.6.3 Limitations

Three limitations in the content of the first assessment, for excellence in achievement, were noted in Chapter 4.4.7. The assessment did not research stories to link the early residents with the old buildings. Consequently, it did not implement a quality value from the Story Group.

A more substantial limitation in the assessment is that it does not take into account the residents' assessment of the area. An assessment by the wider community is desirable because the conservation of a heritage area involves property that is owned by many people and used by the general community in Charters Towers.

4.6.4 Further Work

There are likely to be serious differences of opinion amongst residents about what is the heritage, how important it is, the delineation of a heritage area and policies to prevent the

demolition of old buildings within the heritage area. These differences of opinion are thought to be due to the competing demands put on the heritage area.

A literature search is made in the field of economics in Chapter 5 for ways to understand a heritage area as a community resource that has competing demands put on it, such as those briefly identified in Chapter 3.7. The field of economics is chosen because it is the discipline concerned with competing demands for community and private resources and with the allocation of resources, without necessarily claiming to be able to point to the correct balance.

There is no market structure for heritage conservation but economics provides a way to analyse non-priced community resources such as a heritage area, and a way to identify the priced and unpriced effects of conservation.

5. EFFECTS OF CONSERVATION

5.1 Aim and Method

5.1.1 Aim

The third research question is :

(3) What are the economic effects from the conservation of a heritage area ?

The assessment of an area is not concerned with economic questions but they arise after an assessment when estimates have to be made about the likely effects of conservation on both property owners and the community.

An understanding of the possible effects of conservation is needed to be able to inform the public, to make a survey of public preferences for the conservation of a heritage area, to anticipate public response to a conservation plan, to integrate those effects for the purpose of decisions to be made when preparing and implementing a conservation plan and to research the economic considerations provided for in Section 38 of the *Queensland Heritage Act 1992*.

The discovery was made at the end of the research that the economic effects can be linked to the Model of Environmental Assessment in an environmental/economic hypothesis that explains why people would pay for improved conservation of built heritage.

5.1.2 Method

A search for a theoretical structure for the effects, and a method to integrate the effects for decision makers, was made in the literature in economics because that discipline is concerned with the study of the allocation of public and private resources. A heritage area is a resource because the public receives qualitative and financial benefits and costs from the conservation of a heritage area.

An economic structure for a heritage area, when it is viewed as a community resource, is described in Chapter 5.2. The economic effects of conservation, in terms of benefits and costs, are described in Chapter 5.3. A literature search of the conservation of natural areas unexpectedly led to the Contingent Valuation Survey Method which can be used to survey peoples' willingness to pay for an improvement in their environment. This method is reviewed in Chapter 5.4. Subsequently, the hypothesis was developed in Chapter 5.5 that the Model of Environmental Assessment and the Contingent Valuation Survey Method can be used together to explain why people would pay for improved conservation of built heritage. The hypothesis was the basis of a public survey in Chapter 6 that successfully tested the Model of Environmental Assessment.

5.2 Resource in Historic Buildings

5.2.1 Public Goods

Historic buildings can be evidence of society's high regard for the history of settlements and for old buildings which reinforce cultural values such as the Purpose Values associated with tradition and aesthetics in Table 2.1. The old buildings are landmark reminders of the development, transitions and important milestone events leading up to the present.

The economic concept of public goods and private goods was developed to separately identify goods that cannot be priced and traded in an economic system from those that can be priced and traded. Economists say the advantages derived from historic buildings are a merit good (Chisholm & Reynolds 1982, p.12) or a public good (Gold, 1976, p.351).

Walsh (1986, p.545) distinguished between the two by saying that a merit good is one where there are "declining benefits to society with reduced recreation use". It is unlikely that the public benefits from an historic built area depend on visitation as might a museum, art gallery or public swimming pool which provide general benefits to everyone by improving the cultural and physical well-being of those who attend. In some cases however, such as tourist oriented built heritage areas, the public benefit of entertainment is likely to be a merit good.

Gold (1976) says "A public good is a good which through its provision for one individual automatically gives rise to free

provision for other persons"(p.351).

Mitchell and Carson (1989, p.56) have a similar definition :

> Pure public goods, such as air visibility or the national defense program, have no explicitly identifiable individual property rights because consumers cannot be excluded from enjoying them.

As the example of air visibility and defense shows, a public good is not necessarily a tangible physical object.

Bourassa (1992) has a narrow definition of a public good that would seem to disqualify old buildings from being a public good if the owner obtained any benefit :

> a public good is one that produces only external benefits : it does not benefit its producer. (pp. 34-35).

The owner of a protected heritage property is likely to receive a heritage benefit, irrespective of any personal cost associated with the conservation of the property, which implies that the public benefit from a heritage area is not a public good in a technical sense.

Concern about damage to the Great Barrier Reef prompted the Australian Government and the Queensland Government, in June 1992, to define the rights for tourism and mariculture operators to use particular reef sites on the Australian Great Barrier Reef (a World Heritage Item). The Australian Government decided to sell those rights by competitive bidding (Geen & Lal, 1991), and it set a fee of one dollar for each visitor. The rights situation is created by zoning that restricts use and access. The reason for restricting public access to the Great Barrier Reef is that overuse will damage the reef. There are other parts of the reef where the public is prohibited from entering. The benefit to the public from the closed sections is the knowledge that the closed section is protected so that it can contribute to the viability of the whole reef. This benefit of

knowledge meets the criteria (unpriced, no exclusion and non-diminishing) for a public good. The benefit of pleasure received on visits to the Great Barrier Reef is not a public good because the opportunity to visit is restricted, and the crush of large numbers of visitors, if allowed, would reduce the pleasure.

Economic Theory and Public Goods

Positive economic theory, as distinct from normative (welfare) economic theory, can give little assistance in deciding the amount of a public good that is needed because public goods cannot be valued in relation to the economic system.

According to Gold (1976):

> Economic theory alone does not tell us who should have the initial right - the right to demolish or the right to preserve.(p.368.
> This author would prefer to see compensation or payment for injured parties whichever initial rights structure is chosen.(pp.368-369).

Even if the public good from historic places could be quantified and the advantages maximised according to some principle, for example the Pareto criterion, or if it is possible to "vertically sum the individual demand curves" (Mitchell & Carson, 1989,p.42), economists are not able to talk reliably about distributional considerations (Self, 1975,p.141 ; Mitchell & Carson, 1989,p.21)). The distributional or equity considerations refer to the question of whose heritage to conserve and therefore who benefits from conservation.

In America and Europe the funding of conservation was studied with attention to funds from government, tax benefits, restoration costs, displays and tours to raise funds and revolving funds for the restoration and sale of houses with covenants (Ziegler & Kidney, 1985 ; Working Party etc., 1980,p.5).

In Australia, Chisholm and Reynolds (1982,p.3) carried out a study of the economics of preservation of built heritage. They

began their report by explaining how "A reasonable amount of research has been done on the economics of the natural environment and National Parks" but they were at that time "unable to find a single substantive economic study, either in Australia or overseas, on the economics of heritage conservation of 'man-made' exhibits"(p.2). Their claim that "the market fails to adequately provide heritage benefits"(p.3) implies non-market decisions have to be made to conserve a heritage area.

While the study of the economics of natural preservation, for example in Walsh (1986), has expanded in recent years there is no comprehensive work on the economics of the conservation of built heritage areas. The reason is not clear since Greig (1984) in his review of Chisholm and Reynolds' (1982) book says :

> Heritage is widely defined to include important components of the natural and cultural environment, but the study really deals only with man-made components. These are more amenable to conventional economic analysis.(p.71).

Conclusion

Historic buildings are reminders of things that are important. The importance is expressed in cultural values such as the Purpose Values in Table 2.1. The knowledge that a heritage place is protected is a public good. In passing on physical heritage to the next generation the aim is also to pass on a heritage of what is important, a heritage of cultural values. Consequently, a public good arising from a built heritage area is the knowledge that both the buildings and the cultural values associated with the area, such as the Purpose Values in Table 2.1, are kept secure.

The literature does not describe how a market could or should ensure the heritage area remains a public resource and continues to provide a public good.

5.2.2 Collective Property Right

In statements about heritage buildings and in opposition to their demolition or neglect there is an underlying claim to a public interest in the buildings that requires protection. The nature of the public interest is that the buildings somehow belong to everybody. Mitchell and Carson (1989) introduced the notion that the public has a collective property right to enjoy the existence of some things such as air and water "although individual members may be granted differential access (often for a fee and on an equal basis) by the relevant governing body"(p.38).

A similar argument can be made that the public has a collective property right to keep old buildings. The collective property right may surface subjectively as the public interest in a set of old buildings accrues and reaches an unspecified but perceived threshold. However, the idea of a collective property right is not entirely clear unless it is specifically established by legislation. The collective property right does not have to be a right to use or alter buildings, to sell them or to have unrestricted access to their interiors. There may be situations where public access to the interior of a building is necessary.

The notion of a collective property right implicitly limits compensation for the landowner if there is a preservation scheme and it assists a public claim for penalty compensation from the owner if there is a demolition. Prior to the collective right, a landowner can remove an historic building, subject to local government approval of the way in which it is removed. The right to remove an old building is a benefit to the landowner and may be a benefit to the public if it results in better facilities.

When there is no collective property right in place, the issue then is "when is it reasonable to protect", and not "when is it

reasonable to demolish". This stand sets the *status quo* for any measurement of change in public welfare as a result of a conservation policy, such as an environmental planning scheme. When the conservation policy is in force, there is a new benchmark position or *status quo* in which there is no presumption that a demolition may be reasonable.

In terms of welfare economics, which is concerned with government policy for the distribution of resources and related external effects :

(1) the *status quo* is the legal situation before the conservation order or restriction is made ;

(2) a conservation order will change public welfare ;

(3) a conservation order will be economically efficient if the change in public welfare is positive, and it will be equitable if the gainers compensate the losers.

In Australia, the collective property right cannot be established by common law and legislative authorisation is required before anyone can establish a right for heritage conservation purposes over a property. For instance, the person or body receiving the right is explicitly identified in the Queensland Heritage Act 1992, being the Minister administering the Act in the case of heritage agreements and the Heritage Council in the case of places listed under the Act.

Conclusion

The collective property right was developed as an hypothesis to secure the public good (ch. 5.2.1) from a built heritage area, to determine the extent of the private and public interests in old buildings as property and to establish a benchmark from which to measure the change in public welfare.

5.3 Economic Effects Of Conservation

The economic effects of conservation are described below in terms of benefits and costs because some gains and losses can be quantified and benefit-cost analysis is "the applied side of modern welfare economics" (Mitchell & Carson 1989, p.20).

5.3.1 Benefits & Costs

Walsh (1986, pp.544) gave the results of a survey which showed that the public benefits of preservation are likely to be more substantial than the recreation benefits. However, Green and Tunstall (1991b) wrote :

> In the absence to date of adequately empirically grounded theories of non-use values, it is not possible to separate willingness to pay for use value from non-use value without running serious risks of both double-counting and under-estimation.(p.1142).

A use benefit arises when the benefit occurs only by visiting an historic site or historic area. The effects of conservation are therefore further divided into four categories which are non-use benefits and costs, and use benefits and costs.

5.3.2 Non-use Benefits

1. Non-use Preservation Benefit

People benefit from a general knowledge that old buildings are being preserved even though they do not intend to visit the sites (Walsh, 1986, p.84). Economists, for example Leuschner, Ferguson and de Steigner (1990, p.377) and Walsh (1986, p.85) refer to this non-use preservation benefit as an existence benefit.

The public accepts a responsibility to conserve historic places for present and future generations to enable cultural values to be maintained (ch.2). Economists say the public receives a benefit, termed a bequest benefit, from having something of value to pass on to future generations (Leuschner *et al.*, 1990, p.377).

However, "neither economists nor ecologists can say with certainty just what the future benefits of environmental preservation will be in general or in specific cases" (Fisher & Hanemann, 1985, p. 131).

The present value of future benefits cannot be estimated from a discounted stream of future benefits because, aside from the technical difficulties in valuing the different types of benefits and costs and the discount rate, there is no existing way to predict the conservation preferences of future generations. The history of community based conservation is too short to be confident on that point. The most likely outcome is that places associated with great events, important customs, or important people will survive and have a role in their surroundings.

Walsh (1986, pp. 85, 238) and Leuschner *et al*. (1990, p. 377) say the public receives an option benefit, from knowing that the preservation of the buildings will enable them to visit the buildings and experience the pleasure if they ever choose to. Leuschner *et al*. (1990, p. 377) said "Option value is the value of guaranteeing the possibility of future use". Fisher and Hanemann (1985, p. 129) say : "we prove the existence of a positive 'option value' of nature preservation - the value of retaining an option to preserve or develop in the future". The option benefit may however be negative if development is more in the public interest than is conservation (Fisher & Hanemann, 1985, p. 134 ; Chisholm & Reynolds, 1982, p. 13 ; Freeman, 1984, p. 1).

Green and Tunstall (1991b, p. 1136) contend "there is little empirical evidence as to whether individual members of the public actually share these motivations" of existence value, bequest value and option value.

Green and Tunstall (1991a) make the point that :

> non-use values are likely to result from a non-utilitarian view of the environment and rather pessimistic view of the future, coupled to a series of beliefs relating to duties.(p.130).

This comment regarding non-utility and duties is consistent with the proposition that the Non-use Preservation Benefit contains an existence benefit and a bequest benefit.

The Non-use Preservation Benefit from the conservation of historic places or areas is therefore the knowledge that the evidence of cultural values, such as values of tradition and aesthetics, is available and secured by public ownership or a collective property right. This benefit is available to everyone without restriction, it is not eroded by its experience and it can be increased by improved substantive knowledge of the historic area. It is an unpriced, off-site benefit to the public.

2. Media Benefit

There is published information about the preserved resource in books, films and other communications media (Leuschner *et al.*, 1990,p.377). This information has a market value and it is a priced, off-site benefit to the public generally.

5.3.3 Use Benefits

1. Sustenance Benefit

A person at a heritage area receives a Sustenance Benefit, a public good, if the person's cultural values (Table 2.1) associated with images or expectations of an historic area are improved or maintained. A person who does not intend to maintain or reinforce heritage values must be there for another purpose, for example non-heritage recreation. A person may be there for two purposes, to sustain heritage values and for recreation. The Sustenance Benefit cannot be restricted if there is a public road nearby and it is not likely to be reduced by many visitors, except

in places of great interest such as Stonehenge in England.

The Sustenance Benefit is not the same as the Quasi-Option Benefit of possible future knowledge from natural heritage areas in Mitchell and Carson (1989, p.73). The Sustenance Benefit is an on-site benefit for both residents and visitors. It can be priced, for visitors, by the Travel Cost Method because it is received in the same circumstances as the Recreation Benefit below. If a visitor receives both a Sustenance Benefit and a Recreation Benefit, the travel costs should be split between the two benefits. The Travel Cost Method is based on the market priced visitors costs. According to Walsh (1986), the economic concept of the monetary price of recreation is the total direct out of pocket cost to individual consumers of recreation (p.98), excluding that portion of food and beverage expenditure equivalent to that spent at home (p.99). He claims it has been thoroughly tested and found to be a reasonably accurate way to estimate empirical demand functions and benefits of recreation (p.233).

2. Recreation Benefit

A heritage area can be a place for recreation in which there is enjoyment from an experience of heritage matters such as tradition or aesthetics, or it can be a venue for socializing, in which case it is merely a pleasant setting for a recreational experience with no reliance on a heritage value. It is, like the Sustenance Benefit, an on-site benefit for both residents and visitors which can be priced, but only for visitors, by the Travel Cost Method.

Discussion

The distinction between the Sustenance Benefit and the Recreation Benefit is useful for a a built heritage area because

economic studies that use the concept of a Recreation Benefit do so in relation to the preservation of natural areas for recreation activities such as fishing, camping and walking or to keep life support systems such as air and water supply intact without reference to the heritage value of the area. The studies refer obliquely, at most, to a heritage purpose in their proposals for preservation. For example, Imber, Stevenson and Wilks (1991) in their contingent valuation survey for Kakadu, explained:

> respondents were asked how much they would be willing to pay to prevent possible environmental damage from mining.(p.v).
> It is important to stress that the survey does not ask respondents to assess the net value of mining - that is, the benefits of mining less the environmental costs - but only the value to them of environmental preservation. The Aboriginal cultural value of the Conservation Zone may be an important part of its preservation value.(p.vi).

In the study, the aboriginal cultural heritage value was an ephemeral matter. The study did not draw on heritage values except in an aside to an aboriginal presence in the Park in Questions 6 and 15.

3. Tourism Benefit (Local and Regional) -

There is a public benefit from increased tourism at intervening places as a result of a conservation program (Walsh, 1986,p.32). It is a priced, off-site benefit.

4. Amenity Benefit -

Increased amenity may be experienced by owners or occupiers of property that is adjacent to a preserved heritage property or area. This benefit is conceptually quantifiable as a change in property value. It is a priced off-site benefit.

5. Visitor Convenience Benefit -

A cohesive group of historic places provides a benefit to visitors in the form of easier movement, visual comprehension and historic comprehension. Fagence (1988) discussed "historic and heritage sites as tourist attractions"(p.39) and recommended:

> one strategy which may be adopted is to overcome the loose distributions and to concentrate the attractions into defined precincts in which environmental control and design compatibility can be more easily administered. (p. 39)

Visitor Convenience Benefit is an on-site benefit to visitors which is priced because it is a factor in the market prices that visitors actually pay to visit the area. It can be measured with other visitor benefits by the Travel Cost Method.

6. Identity Benefit -

The occupier of a place in a heritage area benefits through an association with the area (Working Party etc., 1980). Gold (1976) suggests :

> A guarantee by some respected authority of authenticity may be worth a great deal since it reduces uncertainty as to authenticity and may serve as a validation of the owner's taste.
> - - - the designation may be the stimulus for tipping-in rather than tipping-out. (p. 356).

The historic residential areas that become fashionable for 'tipping in' are not necessarily heritage areas. It is the location of old inner residential areas that makes them popular and they become 'gentrified' when their previous occupants are susceptible to economic pressure and move out.

Gold (1976) went on to claim :

> What is crystal clear is that different individuals have different "tastes for preservation" and it would be surprising if this "taste" did not run along predictable ethnic, class, and occupational lines. (p. 362).

Gold's (1976) comments imply that the identity benefit for owners or others associated with historic places is increased social status. The Identity Benefit is reduced as the preserved historic area grows larger because the distinction of being part of a special area is dissipated. Gold (1976) discussed the effect that the size of an urban historic district has :

> If one consequence of district designation is to focus in one location the search for historic homes, then the extent of a district would matter.

> Were an entire city set up as an historic district this concentration effect would be lost.
> Given a district of appropriate size, however, it is my speculation that designation is likely to be a harbinger of social status as well as an indication of historic value.(pp.356-357).

Raison and Webb (1992), both valuers, discussed heritage registration and how it affects private property :

> In solely residential areas, any effect on value is more likely to be beneficial than detrimental, particularly if a whole street or precinct is registered.
> However, it can be a different story for commercial property.(p.39).

7. Site Use Benefit -

Site Use Benefit is the monetary benefit to an agency, public or private, from the pricing of admission to a heritage place. It is a priced, on-site benefit to the owner or occupier.

5.3.4 Non-use Cost

The public benefits from the conservation of areas and places but it also carries the cost of the administration of heritage legislation and the promotion of heritage. The cost, here called a Public Administration Cost, is paid by all taxpayers whether they use a conservation site or not. It is a priced off-site cost.

5.3.5 Use Costs

1. Opportunity Cost -

The Opportunity Cost of conservation is the value of the building or area in its best alternative use, in its highest and best use (Walsh, 1986,p.407). Gold (1976,p.351) remarked :

> historic districts can pose the same opportunity cost problems as specific buildings if such a district is in the path of a developing suburb or downtown development.

The opportunity cost method of economic analysis results in too little heritage being kept according to Chisholm & Reynolds (1982). They took the view that the property market adjusts to heritage expectations provided heritage listing authorities have a consistent policy. However, a loss is still taken by the owner at

the first sale of the property after heritage listing.

Not all the economic matters involved in the conservation of an historic building can be attributed to heritage conservation. Many heritage places continue to exist only because no higher use is calling for their destruction. In these cases, the cost of the foregone opportunity for an alternative development is zero.

Gold (1976) argues :

> The reason why many historic districts are still standing is that the value of these districts in alternative uses as judged by the market is extremely low.(p.350).

A local government environmental plan for the conservation of a built heritage area can produce opportunity costs when :

(1) a development restriction in a town plan makes redevelopment a less economic proposition for the owner ;

(2) commercial property is devalued by conservation and local government loses part of its rate revenue ;

(3) conservation lowers the provision of community facilities or their upgrading in the heritage area.

In regard to (2), the local government may regain some of its lost rate revenue from the state Grants Commission if the Commission accepts conservation is a fiscal disability. In that event the economic effect is transferred outside the local government area to the wider community.

The private Opportunity Cost of conservation is reflected in a reduced unimproved valuation of the land. For example, the New South Wales *Heritage Act 1977* requires a heritage valuation which takes into account restrictions on development :

> the main intention of the Act in this instance is to reduce the land's valuation, thus reducing rate payments and subsidising the present use of the property (Chisholm & Reynolds, 1982,p.42).

A valuation appeal case *Queensland Club v. The Valuer General* (1991) Queensland Land Court AV90-174, reduced the

land valuation from $4.4m to $2.4m on the basis of restrictions on development contained in conservation provisions in Section 22 of the Brisbane Town Plan, reflecting the private opportunity cost of conservation. In a second appeal in 1992, based on provisions in the *Heritage Buildings Protection Act 1990* (Qld), the valuation was further reduced to $980,000.

The Opportunity Cost is a priced on-site cost for the owner, an indirect priced on-site cost for local government and an unpriced on-site cost for residents in the community.

2. Public Cost of Relocation :

If new community facilities cannot be provided as a result of the conservation program, ordinary market forces may create a substitute centre for those facilities. Public Relocation Cost does not include the Opportunity Cost or the cost to relocate individual land uses. It includes :

(1) new infrastructure for development at the new site which may take a long time and can be priced ;

(2) social cost (or benefit) if the new location is less convenient (or more convenient) for the public than the heritage site. This cost is unpriced ;

(3) under-use of existing infrastructure in the heritage area which can be priced ;

(4) economic and physical blight in the heritage area, if there are no suitable rent-paying replacement uses. This effect can be priced ;

(5) a possible permanent loss of some higher order business functions, which would be more likely in small towns. This cost can be priced to the extent that residents incur travel costs to other towns that have the higher order functions.

There may be a gain in higher order functions if the place of

relocation is better situated for the community than the historic area. The Public Relocation Cost (or benefit) is a part priced, off-site cost to residents.

3. Capital Purchase Cost -

The capital purchase cost is the cost of property and facilities specifically for heritage display or tourism. The cost includes the present value of forgone tax if the property is managed by a public agency (Walsh, 1986, pp.397, 406). This is a priced, on-site cost for the owner.

4. Adaptive Reuse Cost -

It is the cost of reuse of historic buildings which includes repair, adaptation, improvement. This is a priced, on-site cost to the owner.

5. Operation and Maintenance Cost -

These are fixed and variable costs that are not capital costs (Walsh, 1986, p.411). Operation and maintenance costs are priced, on-site costs to the owner.

6. Visitor's Costs -

This is a consumer cost that includes total direct out of pocket expenses such as admission, travel, accommodation (Walsh, 1986, pp.93, 98). There may be congestion costs if there are many visitors (Walsh, 1986, p.416 ; Chisholm & Reynolds, 1982, p.3).

The effects of conservation, in the form of costs and benefits. are in the following Table 5.1.

TABLE 5.1 : ECONOMIC EFFECTS OF CONSERVATION

Benefits	Economic Characteristic	Recipient
Non-use Benefits		
Non-use Preservation Benefit of Existence, Option and Bequest	unpriced, off-site	all public
Media	priced, off-site	all public
Use Benefits		
Sustenance	unpriced, on-site priced, on-site	town residents visitors
Recreation	unpriced, on-site priced, on-site	town residents visitors
Tourism	priced, off-site	town & region
Amenity	priced, off-site	near residents
Visitor Convenience	priced, on-site	visitors
Identity	priced, on-site	owner/occupier
Site Use	priced, on-site	owner/occupier
Costs	**Economic Characteristic**	**Recipient**
Non-use Costs		
Public Administration	priced, off-site	all public
Use Costs		
Opportunity	priced, on-site priced, on-site unpriced, on-site	owner local government town residents
Public Cost Of Relocation	part priced, off-site	town residents
Capital Purchase	priced, on-site	owner
Adaptive Reuse	priced, on-site	owner
Operation & Maintenance	priced, on-site	owner
Visitors	priced, on/off site	visitors

5.3.6 Conclusions

Effects of Conservation

The benefits that can be priced are Media, Sustenance (visitors), Recreation (visitors), Tourism, Amenity, Visitor Convenience, Identity and Site Use. The costs that can be priced are Public Administration, Opportunity (owner and local government), Relocation (part), Capital Purchase, Adaptive Reuse, Operation and Maintenance and Visitors Costs.

The effects that are not priced or estimated by land valuations, rents or the Travel Cost Method are the Non-use Preservation Benefit (everyone), Sustenance Benefit (residents), Recreation Benefit (residents), Opportunity Cost (residents) and the Public Cost of Relocation (residents).

Method to Integrate Effects

The Travel Cost Method (Walsh 1986) can be used to estimate a minimum level for the sum of the visitors' Sustenance Benefit, Recreation Benefit and Visitor Convenience Benefit because it is based on the market priced Visitors Costs. It is a minimum level because visitors may obtain more benefit than is indicated by their travel costs. However, the Travel Cost Method does not measure the Non-use Preservation Benefit which is the most substantial benefit (Walsh 1986).

The following Chapter 5.4 describes the contingent valuation method (Walsh, 1986 ; Sinden, 1992) which can be used to further integrate the Non-use Preservation Benefit with the other effects that conservation has for residents and visitors.

5.4 Contingent Valuation Survey Method

The contingent valuation survey method has been used in studies of the benefits from the protection of natural resources. The respondents in a survey of a sample of the population are asked to report the maximum dollar amount they are willing to pay for an improvement in a good, private or public, which is contingent on a hypothetical change in the quality of the good (Walsh, 1986, p.203). The method has a potential use in the integration of the separate effects arising from the conservation of a built heritage area and the testing of public reaction to alternative programs for conservation in a built heritage area. The method is discussed below in terms of its purpose, concepts, questionnaire design, survey delivery and the analysis of results.

5.4.1 Purpose of Contingent Valuation Survey Method

Mitchell and Carson (1989) say :

> The ultimate aim of a contingent valuation survey is typically to obtain an accurate estimate of the benefits (and sometimes the costs) of a change in the level of provision of some public good, which can then be used in a benefit-cost analysis.(p.17).

Sinden (1992) in his review of environmental valuation in Australia claimed :

> contingent valuation has received undeserved praise for its natural versatility, but has gone unrewarded for providing both substantial improvements in information and true values. The extra information provided by valuations is accidental but not superfluous. The information demonstrates who benefits, exposes fallacious arguments about zero and infinite values, and indicates the relative size of some benefits - to cite just a few examples.(p.15).
> Valuation in general, and contingent valuation in particular, is now being used instrumentally, for major land-use decisions.(p.16).

The contingent valuation method was used by the Australian Resource Assessment Commission, in applied research for the Kakadu study by Imber *et al*. (1991), to aggregate the state and national non-use benefits. The concept of willingness to pay for heritage preservation has become accepted as a relevant matter, by public authorities in America (Walsh, 1986, p.45 ; Imber *et al*., 1991, p.v ; and Quiggin, 1992, p.1). According to Pope and Jones (1990, pp.160-161) the contingent valuation method has been widely used for the value of wilderness, wildlife, preservation of river headwaters, outdoor recreation, recreational use of streams, landform alterations due to strip mining, duck hunting, pollution induced health effects, water pollution and many others. The literature does not refer to a survey for built heritage.

Leuschner *et al*. (1990) advocate that :

> CV's appeal lies in its ability to estimate a price for aesthetic values. Scenic beauty estimation (SBE) has improved in the last decade and has been positively correlated with CV values.
> However, SBE is not sufficiently advanced to estimate direct dollar values.(p.382).

Application to Conservation Policy

People are willing to be taxed to preserve heritage in order to see evidence of their settlement culture. Mitchell and Carson (1989) indicate that they may be willing to pay for a conservation policy :

> Although the change is typically described as a specific change in quantity of a public good, it can also consist of a well-defined public policy, along with its intended objectives and probability of success.(p.51).

Mitchell and Carson (1989) also speculate on the value of future information that may be derived from a natural resource if it is preserved now, in what they call its quasi-option value :

> Knowledge can be consciously sought or it can be acquired in a passive

manner.
The value of additional information is likely to be of greatest importance when valuing goods subject to possible irreversible changes, such as endangered species, aquifers vulnerable to contamination, and the damming of wild rivers.(p.73).

If people are willing to pay now for the possibility of future indirect information, as Mitchell and Carson (1989) suggest in the quasi-option benefit, it is equally likely that they will pay now for information to be collated directly and in the immediate future, say for a heritage area in their surroundings.

5.4.2 Concepts in Contingent Survey Valuation Method

Reference Operating Conditions

Six reference operating conditions, the first three from Cummings, Brookshire and Schulze (1986,p.104) followed by three from Kahneman (1986), were proposed for a survey :

(1) subjects must understand and be familiar with the commodity to be valued ;

(2) subjects must have had or be allowed to obtain prior valuation and choice preferences with respect to consumption levels of the commodity ;

(3) there must be little uncertainty ;

(4) a contingent valuation survey should be used only for problems that have a purchase structure for an improvement or to avoid a normal and expected deterioration, but not for a compensation structure (Kahneman, 1986,p.186) ;

(5) the survey should be restricted to user values rather than ideological values. Avoid asking for willingness to pay for symbolic demand (Kahneman, 1986,p.192) ;

(6) accurate description of payment mode is essential to the contingent valuation survey, so that it is understood who will pay (Kahneman, 1986,p.193).

These six conditions are discussed next :

Improvement, Not Compensation

Walsh (1986, p. 204) argues the Contingent Valuation Survey Method is best used for increases in resource quality, because "that is the theoretically correct measure" and "is preferred over asking respondents their willingness to pay to avoid a threatened decrease"; "The willingness to pay approach aggregates the intensities of preferences into a single question"(p. 46), and:

> The contingent valuation method is the preferred approach for estimating the effect of changes in the quality of resources at recreation sites. It is the only approach that can be used to estimate the value of environmental resources to the general population, including users and non-users. (p. 197).

Walsh (1986, pp. 237-239) provides empirical surveys that substantiate the use of the Contingent Valuation Method to estimate the public Non-use Preservation Benefit, separate from the use Recreation Benefit.

The method does not suggest that people will allow the removal of heritage buildings in return for dollars or that everyone has sufficient dollars to express their desire for an improvement in their heritage environment.

The amount people will pay for an improvement is described by the term consumer surplus which Bergstrom (1990) said is "the difference between the gross value", the amount a person is willing to pay, and "financial value"(p. 216) which is the amount the person spends, and:

> Consumer surplus is the appropriate measure of welfare change associated with increments or decrements in environmental quality. (p. 226).

That statement supports an earlier conclusion by Walsh, Loomis and Gillman (1984):

> the general population may be willing to pay for the preservation of unique natural environments and that their option, existence, and

> bequest values should be added to the consumer surplus of recreation use to determine the total economic value of wilderness to society.(p.27).

and is consistent with that by Bergstrom and Cordell (1991):

> There is general agreement among economists that the appropriate measure of the value of outdoor recreation to an individual is consumer's surplus or net economic value. - - - some form of nonmarket valuation technique must be used to estimate net economic value.(p.68).

A loss of welfare from a decrease in environmental quality is not the negative of consumer surplus. Bergstrom (1990,p.223) noted that "Previous research suggests that reported valuations for non-market commodities may be very sensitive to the type of exact welfare measure estimated". Quiggin (1993) said:

> For environmental goods it is frequently the case that the median payment which respondents are willing to accept in return for the loss of an environmental good is as much as 5 times the median amount respondents are prepared to pay to preserve the same good.(p.10).

In a contingent valuation study (Imber *et al.*, 1991) of conservation versus mining at Kakadu, Australia, there was some discussion by authors and two referees which showed there were different understandings of the measurements in the survey. The major difference was whether the valuation question was "willingness to pay"(p.121) or "willingness to accept compensation" (Sinden, 1991,p.194) and it depended on the wording in the valuation question to the respondents.

Consequently it is important to express the valuation question in the survey as a potential improvement, because that is what heritage conservation is meant to be, and not suggest any possible loss of existing environmental benefits in a question.

Knowledge, Experience and Motivation to Pay

A definition of the resource is necessary so that individuals can perceive differences in the availability of the good before saying how much they are willing to pay for its improvement. In a built heritage environment the buildings are the resource and

the improvement is an increase in the benefits outlined in Table 5.1, particularly the knowledge that the area is secured against loss. However, according to Green & Tunstall (1991a, p.128):

> A general assumption underlying economics is that the consumer possesses perfect information. This assumption becomes somewhat implausible when we consider the non-use values of environmental goods.

That comment referred to an earlier study of economic benefits from a general improvement in the quality of rivers in England for which only general knowledge could be assumed. The comment is less relevant to a study for a heritage area where residents are expected to have a knowledge of their area. Green and Tunstall (1991a, p.130) found that a non-use motivation for preservation of nature is as much a moral question as a question of how much and what to preserve. Perfect knowledge of what is available for preservation is not as important in a moral question as it is in an economic efficiency question. A lack of knowledge implies that respondents are not choosing between alternatives but are instead transferring their moral concern to the site.

In a study of conservation benefits in a wilderness area, Pope and Jones (1990, p.164) found it is not so important that respondents be given knowledge or have experience.

Self (1975) would dispute the possibility of obtaining the willingness of people to pay for preservation on the principle that individuals will regard any benefit as partly personal and partly social and will only pay for the part that is personal, and:

> for a variety of reasons this criterion of benefit is not acceptable to policy makers.(p.81).

The geographic location of the population in relation to the improvement determines the logical set of benefits and costs that are measured. In the Australia-wide contingent valuation survey for Kakadu National Park, (Imber *et al.*, 1991) reasoned that the

respondents in the Northern Territory were willing to pay considerably less than the national sample because :

> respondents in the Northern Territory sample were taking account of possible financial or other personal gains from mining and netting these out of the costs to the environment.(p.viii).

That situation is similar to one in which residents have heritage needs and non-heritage needs in their built heritage area, noted in Chapter 3.7. This is an example of the mixed issues which Imber *et al*. (1991,p.16) said "are poorly suited to analysis by CV surveys". However, if Imber *et al*. (1991) are correct in their previous conclusion above, the contingent valuation method could be used to get the nett effect for residents of a hypothetical improvement from a conservation plan for a built heritage area.

Embedding

The combination of a lack of knowledge and the moral concern referred to by Green and Tunstall (1991a) may cause people to transfer their concern to any place under study and be the origin of the embedding and sub-additive problem in contingent valuation surveys noted by Quiggin (1993,p.11).

The sub-additive problem arises when the amount a person is willing to pay for a particular hypothetical improvement in the environment at two places together, say for improved air quality, is much less than the sum of the amounts the same person is willing to pay for the same improvement at each place separately. In the sub-additive problem, the valuation might not be wholly specific to a given site and situation but rather may be partly directed to the site and situation and partly to the subject matter in its general occurrence in a much wider environment.

Payment Mode

Walsh (1986,p.596) reported that American recreation agencies aim to maximize the net present value of their output

which is the individual willingness to pay by all citizens less the sum of the agency's operating and opportunity costs. Imber *et al*. (1991) asked respondents how much income they were willing to give to the government to set up a protection zone.

The method of payment should involve all "people who might be affected by a change" (Imber *et al*., 1991, p.v). To be plausible, the hypothetical payment should be to the agency that will make the improvement.

Population

Green and Tunstall (1991b, p.1136) argued that "Appropriate definition of the population who benefit is necessary" before sampling the population and calculating the total benefit. Still in relation to a change in environmental quality, not an assessment, Bergstrom (1990, p.223) said "Characteristics of participants (e.g. residence, income, education) may greatly influence reported valuations for environmental quality". The characteristics may also affect an assessment (ch.3.8.7). But Green and Tunstall (1991a, p.132) claimed "The population who gain non-use benefits from a site cannot be specified *a priori*". A sample of the whole population may overcome the problem.

Underlying Environmental Model

Green and Tunstall (1991a) maintain :

> The meaningful economic evaluation of environmental goods depends both upon economic theory being adequate and a congruence between economic and environmental theories of value.(p.123).

Green and Tunstall (1991b) argue that for the results of a contingent valuation survey to be valid, the theoretical model underlying the design of the study must account for a satisfactory proportion of the variance in the valuations :

> 40% should be achievable for well-defined goods. A more immediate target, and perhaps the best that could be achieved even in the longer term for very hypothetical changes, is 20%.(p.1142).

5.4.3 Questionnaire Design and Survey Delivery

Questionnaire Design

Mannesto and Loomis (1991) consider the personal cost in time and mental effort for a respondent who answers a questionnaire and say "respondents could minimize their costs by skipping complex items"(p.184).

Walsh *et al*. (1989,p.258) say the questionnaire in the contingent valuation survey should :

(1) take no more than 30 minutes and include the identification of the survey organization and the purpose of the survey,

(2) be introduced as a scientific experiment to a sample of users, with answers confidential, and respondents provided with information about the places to be valued.

(3) ask respondents for their preference of variables on a 5 point scale of importance.

Open-ended Valuation Question

The open-ended valuation question allows the respondents to say how much they are willing to pay, without prompting or leading by the interviewer.

Discrete or Dichotomous Choice Method

This method, a variation of the referendum method, uses the fact that "most people are familiar with being confronted by a posted 'price' for a good, and with deciding whether or not they should 'buy' at that price" (Cameron, 1991,p.413). Duffield and Patterson (1991) explains the dichotomous choice method :

> Among the specific alternative contingent valuation question formats, dichotomous choice (where subjects are asked to respond 'yes' or 'no' to fixed bid amounts) is emerging as the preferred methodology. Compared to open ended and bidding game formats, dichotomous choice is low cost since it is amenable to mail survey application, successfully elicits participation, and is free of starting bid bias. - - - major problems remain in implementation - - - survey design and analysis are relatively complex.(p.225).

Wilks (1990) said the referendum method is familiar to Americans who have used it for the provision of public goods, but its applicability in Australia where referenda are rare and have not occurred for public goods, was to be tested (p.17).

Imber *et al*. (1991,p.21) said the method uses a statistical model and "a large sample size is needed in order to obtain a precise estimate of the mean or median of the population's maximum willingness to pay".

Cameron (1991,p.413) claimed that :

> One persistent difficulty with econometric techniques that are currently used most widely to analyse referendum contingent valuation data is the absence of confidence intervals for the ultimate value estimates.

Cameron (1991) then developed a theoretical method which she called censored regression, to construct confidence intervals for fitted values in the referendum or dichotomous choice approach. There is no reference in the paper to empirical use of the method.

Survey Delivery - Mail or In-person Survey

Mannesto and Loomis (1991) investigated the reliability of mail surveys and in-person surveys and found :

> the mail survey may be better for thinking about future events (where they have time to contemplate) while in-person surveys may be better for recently past (last recreation trip) behaviour.(p.185).
> the in-person survey had a much higher survey completion rate than the mail survey.(p.188).
> One lesson to be learned from this experiment is that it may be premature to unconditionally recommend mail surveys as Moser and Dunning do. However, it is equally unnecessary to reject mail CVM surveys in favour of in-person CVM surveys as Mitchell and Carson do.(p.189).

Mail surveys are not recommended by Dillman (1978) :

> we conclude that the face-to-face interview is the best, the telephone a close second, and the mail survey a somewhat more distant third.(p.52).

5.4.4 Analysis of Survey Results

Results of Surveys

Bergstrom (1990, pp. 224–225) has examples of the amounts that people were willing to pay : $170, $240, $435 and $1284 per household per year for various levels of improvement in air quality and $18, $32, $38, $46, $80 and $273 per household per year for different levels of improvement in river water quality, all adjusted to 1988 American dollars. Pope and Jones (1990, p. 163) found households would annually pay $53, $64, $75 and $92 respectively to preserve 5%, 10%, 15% and 30% of the American state of Utah as wilderness. Imber *et al.* (1991, p. vii) found respondents were willing to pay $52 and $123 per year to avoid two possible scenarios for mining. Walsh (1986, pp. 237, 239) has earlier results of surveys. There were no results in relation to built heritage.

Protest Answers

According to Walsh (1986) :

> Surveys with more than 15% protest response should not be used in decision making because a high incidence of protest may indicate that other values are also distorted (p. 208).

Clustering of Valuations

Any strategic answering, with high values to encourage something to be done, or low values to discourage, should be tested for bimodal clustering (Walsh, 1986, p. 212). In his review of the Kakadu study Hanemann (1991, p. 188) said : "I don't consider spikes at zero to be implausible".

Inter-study Comparisons

Bergstrom (1990) researched the different methods used to value environmental quality, and concluded :

> Comparisons should focus on the definition and description of the environmental quality commodity, the exact welfare measure estimated, the valuation technique used, characteristics of people selected to

participate in a study.(p.223).

Comparison of Contingent Valuation Survey Method and Travel Cost Method

The travel cost method is widely accepted because it uses the actual costs incurred by travellers to estimate the monetary value of the benefits they receive from their travels.

Walsh, Ward and Olienyk (1989) reported their own and other conclusions that, for recreation use benefits, the results from the contingent valuations are likely to be comparable to travel cost method values when :

> respondents are familiar with the resource, have prior experience valuing it, and face little uncertainty.(p.267).

Sanders, Walsh and McKean (1991) obtained very similar results for recreational use benefits with the contingent valuation method (CVM) and the travel cost method (TCM) and concluded :

> This supports the proposition that the CVM can provide reliable estimates from on-site visitor and household surveys of the general population.(p.1392).

5.4.5 Conclusion

Purpose

In the contingent valuation survey method, the improvement can be a conservation policy or better knowledge of the environmental resource. The method has been widely used to value improvements in the preservation of natural environments, but not apparently in relation to a built heritage area.

The contingent valuation method is the only empirical method to estimate the Non-use Preservation Benefit (ch.5.3.2) and it can be used to estimate the value of improvements in aesthetic benefits and recreation benefits. The method can therefore be used to measure the aggregate effect on town residents of an environmental plan to conserve a built heritage

area, to include the Non-use Preservation Benefit, Sustenance Benefit, Recreation Benefit, Opportunity Cost, Public Administration Cost and Public Cost of Relocation.

Underlying Motivation

A conceptual problem is whether respondents base their valuations on a knowledge of the good or on moral concerns about the good. The matter is not clear-cut because a knowledge of heritage is likely to have moral overtones. The sub-additive or embedding problem may be avoided if valuations are used to compare the public response to two or more hypothetical improvements.

Questionnaire

The face-to-face interview method with an open-ended question or questions is simple, effective and low cost.

The requirements in a contingent valuation survey are a question asking the amount a person is willing to pay for an improvement in a public or private good, a clear specification of what the improvement is and a plausible method to bring about the proposed improvement in the good. The question should be expressed in terms the respondent is likely to be familiar with, phrased so that it can be easily comprehended and likely to strike at a need the respondent has.

Environmental Theory

An environmental theory must explain the occurrence of the improvement from either the conservation policy or new knowledge, which respondents are willing to pay for.

The following Chapter 5.5 explains how the Model of Environmental Assessment (Table 3.5) is an environmental framework on which to base an opinion survey and a contingent valuation survey amongst residents.

5.5 Method To Integrate Effects Of Conservation

5.5.1 Introduction

This Chapter 5.5 describes :

(1) how a conservation authority and an environmental planning authority provide benefits (Chapter 5.5.2)

(2) how the Model of Environmental Assessment explains the contingent valuation of improved benefits (Chapter 5.5.3)

(3) the variables in a public survey of opinion and contingent valuation (Chapter 5.5.4).

5.5.2 Improvements Through Conservation & Planning

The outline below of potential improvements through conservation and planning provides a plausible basis for a contingent valuation survey. It assumes that legislation allows a conservation authority to conserve individual buildings and an environmental planning authority to conserve heritage areas.

5.5.2.1 Improvements by a Conservation Authority

A building conservation authority, such as the Queensland Heritage Council, can improve the benefits from a heritage area by preventing the demolition of individual heritage buildings, by improving access to the knowledge of historic buildings, by conserving the physical condition of historic buildings and by assisting others to conserve those buildings.

Of these four approaches, only the first two, preventing demolition and improving knowledge, are relevant to the thesis.

Prevent Demolition

The demolition of individual buildings is prevented directly through heritage registers authorised by legislation. The registers aid the Non-use Preservation Benefit and other benefits in Table 5.1 except the Visitor Convenience Benefit.

Improved Access to Knowledge of Heritage

The Non-use Preservation Benefit will increase with the knowledge of the heritage values attached to protected buildings. A conservation authority can therefore increase the benefits listed in Table 5.1, except the Visitor Convenience Benefit, by the prevention of demolition and by the dissemination of knowledge.

5.5.2.2 Improvements By Environmental Planning

Two strategies are possible in environmental planning :

(1) define a heritage area and place controls on redevelopment within the area ;

(2) list the heritage buildings in the town plan and place controls on future changes to the buildings.

Both strategies, with incentives such as transferable development rights, are an improvement in terms of heritage conservation over the *status quo* (Chapter 5.2.2) in which there is no protection. The controls in (1) and (2) above increase the Non-use Preservation Benefit, Sustenance Benefit and Recreation Benefit for the town residents and the Non-use Preservation Benefit to a wider community because there is the general knowledge that the area is secured against loss. The assessment before an environmental plan can provide increased substantive knowledge and give increased meaning to the heritage area (ch.3) for town residents.

There is no reason in principle to prevent demolition in heritage areas through town planning, but where a town plan has no direct control over demolition it can reduce the redevelopment potential of demolished historic sites through penalties on the size of redevelopment if demolition occurs. This method was used in Section 22 of the Brisbane Town Plan 1989 but with the adverse effect of a large devaluation in at least one property (ch.5.3.5).

5.5.3 Environmental Framework in Improvement

5.5.3.1 Clarifications

A contingent valuation survey for a heritage area cannot be regarded as a heritage assessment that is contingent on the conservation plan being put into effect. The contingent valuation is only the monetary value the residents put on the nett improvement from a hypothetical conservation program.

5.5.3.2 Public Attitude to Collective Property Right

The Model of Environmental Assessment does not have a structure to explain a perception of the improvement in protection from a collective property right. That perception is one of the cultural values in the factor of Knowledge in the Model, perhaps an attitude towards the efficacy of the collective property right. It is a cultural value towards heritage conservation and a non-environmental explanatory variable of a contingent valuation. To find how that cultural attitude affects a contingent valuation, the respondents in a survey could be asked a question as to whether they regard a collective property right as a reasonable exercise of authority. Apart from a question of that nature, the difference between the perception of the existing property right and the perception of the potential property right has to be left as part of the subjective valuations of respondents in the contingent valuation survey.

5.5.3.3 Environmental Explanation

For the Model of Environmental Assessment to be an underlying environmental explanation for the contingent valuations it is necessary to assume that the residents believe the area has heritage value in terms of Location and Unity in its buildings and history, that they believe the buildings should be protected, and that they believe their knowledge of the area's

Locational landmarks and Unity, as they affect heritage values, will improve when they know more about the area.

Environmental/Economic Hypothesis

The hypothesis is that residents will receive a nett benefit (Non-use Preservation Benefit, Sustenance Benefit, Recreation Benefit, Opportunity Cost, Public Administration Cost and Public Cost of Relocation) from improved knowledge and protection given by an empowered heritage authority or environmental planning authority, and that the residents' willingness to pay for the nett benefit is directly a result of the difference between :

(1) their present knowledge of the heritage area and perception of how well the area meets their need for satisfaction of their heritage values in terms of both the availability of landmark buildings and unity in the heritage qualities of the area, and

(2) their expectation that the heritage authority or environmental planning authority will provide improved protection and knowledge that will lead to an improved future perception of landmark buildings and unity.

This hypothesis provides the reasoning for the use of the Model of Environmental Assessment, incorporating the factors of Knowledge, Need. Location (landmarks) and Unity as the underlying environmental framework for the opinion survey and contingent valuation survey in Chapter 6.

The hypothesis provides the means to integrate the anticipated effects of the conservation of a built heritage area, the third research question in Chapter 1.2.6, for the purpose of decision making.

5.5.4 Variables in Surveys

Logic in Measures of Variables in Survey

To use the environmental/economic hypothesis (ch.5.5.3.3), measurements must be taken on each factor, Knowledge, Need, Location and Unity in the Model of Environmental Assessment from each respondent. Since the elements of concern are old buildings as entities, the building should be the unit of measure. In the literature, the only measure of historic areas was floor space (Walsh, 1986, p.447).

The logic problem is that an opinion survey of residents around an historic area will produce answers that will be measurements of the satisfaction of heritage needs and non-heritage needs in each of the factors of Knowledge, Need, Location and Unity. The non-heritage needs could include material needs for business or shopping. The contingent valuations only reflect attitudes towards an improvement in heritage matters. Since the four factors should provide the environmental explanation of the contingent valuation, without the influence of non-heritage matters, the logic question is how to separate the heritage and non-heritage components in each answer in the opinion survey so that a measurement in the opinion survey can be linked to a contingent valuation ?

The ideal environment that would remove the above logic problem is an environment composed entirely of historic buildings with no non-heritage uses. There are two methods to obtain results near those that would be obtained from such an ideal.

Both methods require the opinion survey be combined with the contingent valuation survey in a single survey.

The first method is to inform respondents that their answers to questions should be concerned only with the historic character of the area and not with any perception of its other functions.

The second method is to not raise any distinction between historic and non-historic buildings in the survey questions, and to then use only the historic buildings in the respondents' answers to make a statistical analysis that tests whether there is a relationship between the respondent's opinion and the contingent valuation, as proposed by the environmental/economic hypothesis. If an answer to a question in the opinion survey is given as "X" historic buildings and "Y" non-historic buildings then the value "X" should be used in the statistical analysis.

The second method is preferred because the respondents can give their attitudes unhindered by artificial constraints and it provides a more complete picture of overall satisfaction with the environment from both a heritage perspective and a non-heritage perspective, which is additional information that may be important for conservation purposes. The name of each building should be asked for so that buildings can be classified at the time of analysis as historic or non-historic.

Variables in Opinion Survey

The opinion survey is made with the hypothesis that there is a functional relationship between the respondents' opinion or assessment of a heritage area and their answers to questions that

are based on the factors in the Model of Environmental Assessment. The relationship is expressed as :

Opinion = Function[1](Knowledge, Need, Location, Unity)

In equation Function[1], the factors of Location and Unity are each expressed as numbers of buildings (historic and non-historic). Need is expressed as the number of buildings, historic and non-historic, visited for sustenance or pleasure.

Ideally, the factor Knowledge would reflect the respondents' knowledge of the significance of the heritage area and its historic buildings as evidence of a cultural value, for example a Purpose Value in Table 2.1. The understanding that an individual has of a particular heritage environment is difficult to gauge in a survey. A proxy for this understanding is the number of historic buildings that the respondent can name without prompts as being important historic buildings.

Variables in Contingent Valuation Survey

The contingent valuation method is proposed in a household survey to measure, scale or weight, the value of alternative programs that increase the benefits from the conservation of historic places and historic areas. The contingent value has a similar functional relationship to the opinion survey but with one extra variable, Income (in dollars), denoting capacity to pay :

Contingent Value = Function[2](Knowledge, Need, Location, Unity, Income)

A household's willingness to pay for an increase in a benefit is likely to be proportional to the household income.

5.6 Conclusions

Effects Of Conservation

Historic buildings and their historic areas are resources because they provide public and private benefits, but their conservation imposes both private and public costs. The benefits and costs are listed in Table 5.1.

The main benefit is the Non-use Preservation Benefit and there may be positive effects from the conservation of an historic area for the local and regional economy due to spending by visitors and sales of publications on heritage.

Method To Integrate The Effects Of Conservation

The contingent valuation method can be used to find how much people are willing to pay for the benefits and costs from a conservation plan as they are understood by the person making the contingent valuation. The basic requirements in a contingent valuation survey are stated in Chapter 5.4 and these requirements indicate the method is at least suitable to compare the relative worth of alternative conservation projects.

As a rough guide, a very small contingent valuation, say less than $10 per household per year for ten years, could indicate that residents are not strongly motivated towards conservation of the heritage area whereas $50 could indicate they do want the improvement in conservation.

Survey

The Model of Environmental Assessment is an underlying

environmental framework for both an opinion survey of a built heritage area and a contingent valuation survey of a hypothetical protection program for the area. The Model of Environmental Assessment is only a partial explanation for the amount that residents are willing to pay for conservation in a multi-purpose heritage area because it can only take into account the environmental variables and cannot account for peoples' perception of the moral question of conservation controls over properties in a heritage area or their ability to pay for conservation.

The next Chapter 6 records the survey that was made of residents in Charters Towers for their overall opinion of the historic central commercial area and their contingent valuations of three alternative hypothetical protection programs for the area.

6. HOUSEHOLD SURVEY

6.1 Introduction

6.1.1 Aim and Hypotheses

The aim was to test the Model of Environmental Assessment as an explanatory environmental framework in an opinion survey and contingent valuation survey in Charters Towers.

Environmental Hypothesis in Opinion Survey

The environmental hypothesis is that the residents' assessment of the central commercial area is explained by the four factors of Knowledge, Need, Location and Unity in the Model of Environmental Assessment. The problem faced in separating needs related to heritage and non-heritage was discussed in Chapters 3.7 and 3.8.7. The conclusion was made in Chapter 5.5.4 that the four factors in the Model should be expressed in terms of historic buildings and non-historic buildings. The factor of Knowledge reflects the residents' knowledge of both the historic buildings and the community facilities in the area. However, there is no need to express the factor Knowledge in terms of non-historic buildings because knowledge of these is not of interest. The factor of Need reflects residents' use of the area to satisfy their cultural values related to heritage and their use of the area to satisfy their non-heritage needs such as material sustenance and entertainment. The factor of Location reflects residents' understanding of the buildings that are reference points

(i.e. historic landmarks and non-historic landmarks). The factor of Unity reflects residents' understanding of the buildings that complement each other to satisfy the residents' Needs (i.e. historic unity, historic disunity, non-historic unity, non-historic disunity).

Environmental/Economic Hypothesis in Contingent Valuation Survey

The joint environmental and economic hypothesis in the contingent valuation survey is that :

(1) the residents' present assessment is based on their Knowledge of the heritage area and perception of how well the area meets their Need for satisfaction of their heritage values in terms of both the availability of Locational landmark buildings and Unity in its heritage qualities,

(2) the residents anticipate the research and protection from the proposed heritage authority or environmental planning authority will improve their Knowledge of the heritage area in terms of Locational landmark buildings and Unity in heritage qualities, and

(3) the expected improvement in Knowledge of Locational landmark buildings and Unity in heritage qualities is expressed as (ch. 5. 3) the Non-use Preservation Benefit, Sustenance Benefit, Recreation Benefit, Opportunity Cost, Public Administration Cost and Public Cost of Relocation the nett effect of which the residents will be willing to pay for if it is positive, subject to their capacity to pay and their attitude towards a heritage authority.

There are negative influences to consider. The importance of protection depends primarily on the heritage quality of the area but it also depends on the need to halt or restrain any matters that detract from that quality, such as dis-unity in historic buildings. Increased Knowledge will heighten residents' awareness of matters to be remedied in the area including any intrusive adverse effect on the Unity of heritage qualities caused by prominence or unity in non-historic buildings (i.e. non-historic landmark, non-historic unity).

Further, increased protection will safeguard the residents' perception of prominent and important old buildings and unity in old buildings and give them satisfaction but it may also make them apprehensive about its effect on their ability to satisfy their non-heritage related Needs.

6.1.2 Statistical Relationship

The statistical variables in the survey are listed in Table 6.4.

6.1.2.1 Opinion survey

The residents' liking for the central commercial area is assumed to be a linear relationship of the answers to questions dealing with the factors of Knowledge, Need, Location and Unity in the Model. The relationship is expressed as :

Equation 1 :

Like = Function[1](Historic Places, Visits for Sustenance, Visits for Pleasure, Non-Historic Landmarks, Historic Landmarks, Non-Historic Unity, Historic Unity, Non-Historic Disunity, Historic Disunity)

and in mathematical form as,

lik = Function[1](hp, vs, vp, nhl, hl, nhu, hu, nhdu, hdu)

6.1.2.2 Contingent Valuation Survey

The statistical relationship in Equation 2 is similar to Equation 1 for the opinion survey, but it has an extra variable ***Occupation "occ"*** to denote household capacity to pay for the protection programs.

Equation 2 :

Contingent Valuation = Function[2](Historic Places, Visits for Sustenance, Visits for Pleasure, Non-Historic Landmarks, Historic Landmarks, Non-Historic Unity, Historic Unity, Non-Historic Disunity, Historic Disunity, Occupation)

and in mathematical form as,

cva = Function[2](hp, vs, vp, nhl, hl, nhu, hu, nhdu, hdu, occ)

The variable ***Occupation "occ"*** is expressed as weekly household income in dollars.

The analysis uses linear regression in Chapters 6.5 and 6.6 to calculate coefficients and confidence statistics for the predictor variables in Equations 1 and 2.

TABLE 6.1 : OUTLINE OF CHAPTER 6

Chapter 6.1 : Introduction

Survey program ; hypotheses ; study area

↓

Chapter 6.2 : Survey Method

Drafts of questionnaire ; Survey questionnaire ;
Checks on questions for contingent valuations ;
Procedure for survey ; Presenting and collecting questionnaire

↓

Chapter 6.3 : Inspection & Coding Of Data

Inspection of responses ; Coding of data ;
People in sample

↓

Chapter 6.4 : Preliminary Analysis Of Data

Method of statistical analysis
Assumptions in statistical analysis
Summary of data ;
Correlation matrix
Categorical data analysis

↓

Ch.6.5, 6.6 : Test Model of Environmental Assessment

Logit and probit analyses
Linear probability model
Simple Regression
Multiple Regression

↓

Chapter 6.7 : Conclusions

Residents' opinion of historic area.
Residents' willingness to pay conservation programs
Test of Model of Environmental Assessment
Limitations in household survey

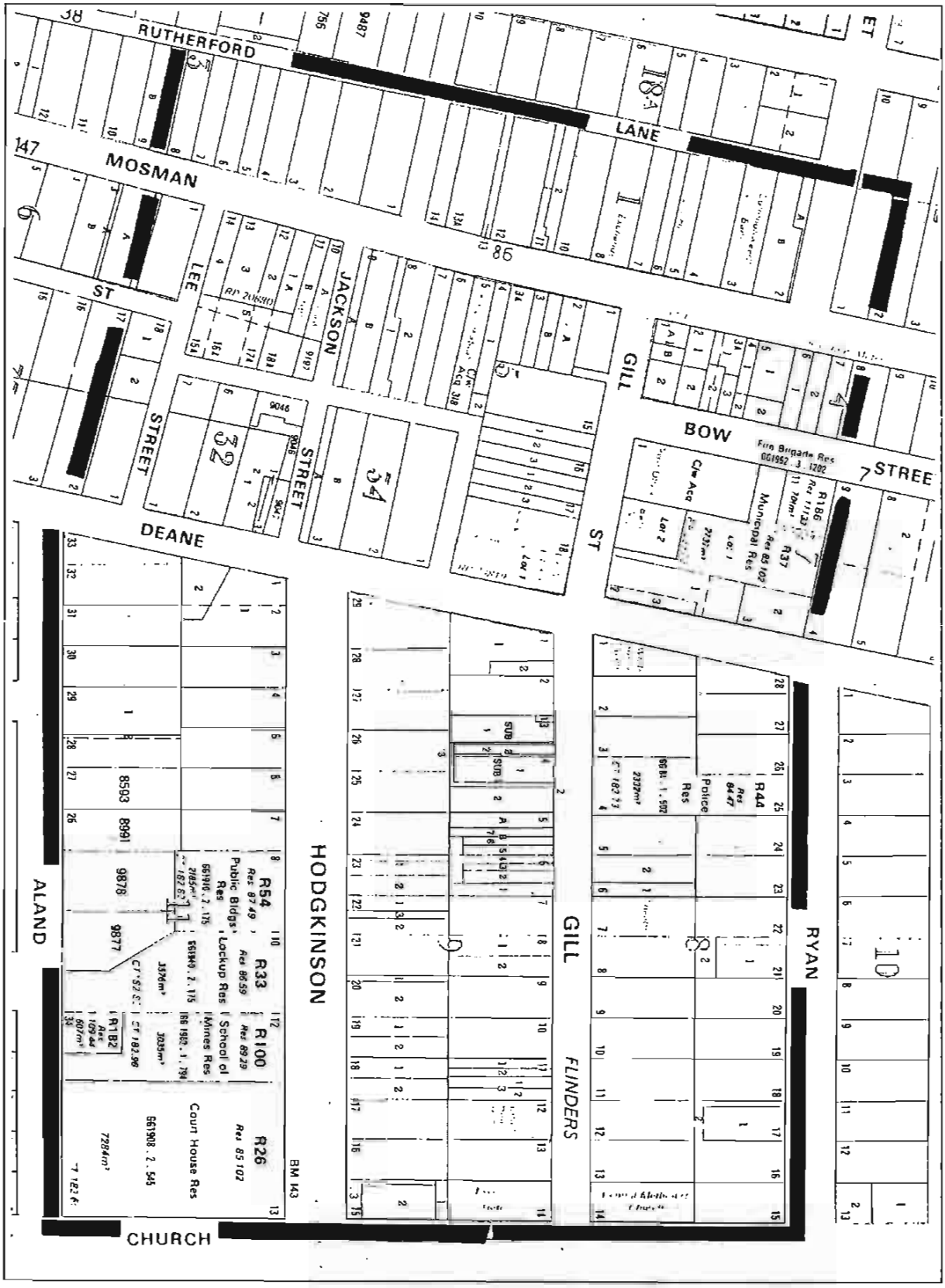


FIGURE 6.1 : STUDY AREA

6.2 Survey Method

The tests of two drafts of the questionnaire in two pilot surveys are in Chapter 6.2.1. The development of the final questionnaire is in Chapter 6.2.2, the contingent valuation questions are checked in Chapter 6.2.3 and the procedure in the household survey is in Chapter 6.2.4.

6.2.1 Two Drafts And Tests Of Questionnaire

6.2.1.1 Pilot Test of First Draft of Questionnaire

The first draft was presented to seven people who were familiar with Charters Towers but did not live there. It did not identify any historic buildings. Four respondents completed the first draft questionnaire without difficulty.

The contingent valuations for the three alternative protection programs indicated that the protection of the respondents' important buildings was as important as the protection of the area in which those buildings were situated.

6.2.1.2 Second Draft of Questionnaire

The explanatory notes in the second draft stated there were at least 59 old buildings and named the 8 buildings in the study area that were protected by the Queensland Heritage Act 1992 :

> the Stock Exchange, Australian Bank of Commerce,
> Lyall's Jewelry shop, Post Office, Police Station,
> School of Mines, Court House and Masonic Temple.

The notes had a map showing the protected buildings, the same as Figure 4.1, and they introduced the idea of a Heritage Trust Fund to make the hypothetical payments more plausible.

The second draft was distributed in Charters Towers to 28 homes in Ryan, High, Anne, Park, Mary, Church, Towers, Rainbow and York Streets and Natal Downs Road on Friday 2/10/92, and handed to an adult at each home. The only points discussed were the purpose of the survey and the arrangement for collection near midday the next day. The results were :

12 were completed or partly completed ;
8 were not completed ;
1 refusal on the basis of the contingent valuation question ;
1 had not answered because moving away ;
At 6 places there was no one at home.

Discussion Of Answers

The explanatory notes gave the names of the existing protected buildings and these seemed to be a prompt for the respondents' answers. A trend in the answers was to name protected historic places as landmarks, less willingness to describe those landmarks as important, and far less willingness to pay for protection of those historic places. The trend may be linked to the protected status of many of the named historic buildings. One way to clarify the problem was to remove the names of protected buildings from the questionnaire.

The results from the pilot survey of the second draft were not inconsistent with the Model of Environmental Assessment. There was an almost complete lack of use of the central commercial area for pleasure.

An alteration to the questionnaire was needed to reduce the emphasis of the contingent valuation question.

6.2.2 Survey Questionnaire

The second draft of the questionnaire was modified by deleting the names of the eight protected buildings, by deleting a question which asked for a reason if a zero dollar valuation was given, and by adding 3 questions which related to :

(1) satisfaction with the business area,

(2) reaction to a proposed Historic Buildings Research Authority, and

(3) occupation of working adults in the household.

The questionnaire had three sections :

(a) attitudes towards the central commercial area ;

(b) willingness to pay (contingent valuation) for knowledge and protection in three different groups of historic buildings ;

(c) demographic data - occupation, household size.

A question asking for a reaction to the proposed Historic Buildings Research Authority was included in anticipation that residents may have strong ideas about the appropriateness of such an authority which could influence their willingness to pay for the conservation programs.

The questionnaire and its explanatory notes below, and a map of the study area in Figure 6.1, were given to each household. The questionnaire contained explanations of the existing measures for protection, the management of the proposed Historic Buildings Research Authority and the three alternative conservation programs.

Explanatory Notes Attached To Questionnaire

A study of the environment in the central business area of Charters Towers is under way in a postgraduate research program through James Cook University of North Queensland. The study area is outlined in black on the map on the next page. The central business area is very interesting and unusual because it provides everyday business and government services from historic buildings.

No-one knows conclusively whether the resident community as a whole wishes to protect and keep the old buildings.

You are invited to participate in the study by providing your impressions through the enclosed set of questions. Either head of the household may answer the questions. Your impressions of the central business area, as a resident of Charters Towers, will help in forming conclusions about the area.

The results of the study will be available to anyone, and will be referred to decision makers involved in keeping or changing the face of the area. There are no "right" or "correct" impressions to give. Your honest opinion is invited even if you have not lived long in Charters Towers, or feel you are not an "expert" in such matters. Your answers are confidential.

The first set of questions ask whether the central business area functions or looks as you would like it to function or look. The second set deals with your beliefs about the worth, if any, of the old buildings. The third and final set of questions concerning household size and occupation will help in understanding and interpreting the results.

You may feel after answering the questions that they do not fully draw on ideas that you would like to give. If that is the case please write the rest of your ideas on the side or on the last page. If you would like to know the results, place a sheet of paper with your address with the completed questionnaire and the results will be posted.

The researcher will call to pick up the answers as arranged with you, otherwise on the weekend after you receive this letter.

SECTION 1 : Impressions of the central business area

The main objective in the survey is to learn how residents use the central business area, in the area outlined in black on the map, and to obtain their impressions.
Some may use it only for business and be concerned only with business related matters. Others may use it for pleasure or recreation and be concerned with its attractions. For many it may be a combination of these factors. Some will feel "at home" in the area while others may be glad to leave.
The first question is very general, asking for your overall impression. The questions that follow ask for some details of your impressions of the central business area.

Question 1. Do you like the central business area ? (circle a number)

1. **Not much**
2. **It's O.K.**
3. **Yes. A lot.**

Print your answers to Questions 2 to 6 in shaded boxes and carry over to last page if insufficient space

Question 2. Print the names of places, in the whole area on the map, that you go to most often and the reason (e.g. work, business, pleasure)

NAME OF PLACE	REASON	STREET

Question 3. Name any buildings or features, in the whole area on the map, that stand out as landmarks when you walk or drive through the area

NAME OF LANDMARK	STREET

Question 4. Name any places, features, or arrangements in the whole area on the map, that look good together or function properly together

Question 5. Name any places, features, or arrangements in the whole area on the map, that give annoyance or discomfort, or need improvement

Question 6. If any historic places in the whole area on the map are important to you, please name them

NAME OF HISTORIC PLACE	STREET

SECTION 2. : Protection of Historic Buildings

PRESENT SITUATION : *The area outlined in black on the map, has at least 59 buildings that were erected before 1901, with 27 between Deane Street and Rutherford Lane and 32 between Deane Street and Church Street. The Heritage Buildings Protection Act 1990 protects 8 buildings and any of the remaining 51 old buildings may be demolished or altered.*

RESEARCH : *Before any of the 51 buildings can be protected, research must be carried out to find which buildings are worth protecting, how much of the business area should be preserved for its character, and to identify the costs and benefits.*

MANAGEMENT : *For this study, please assume that the Historic Buildings Research Authority will carry out the above research and operate with the following rules :*

(1) the Historic Buildings Research Authority will be a corporation run by representatives from state and local government and the public,
(2) the research will take 5 years to complete,
(3) the research will produce recommendations for the buildings to be protected, changes to laws to protect these buildings, guidelines for their maintenance and improvement and publications for appreciation and enjoyment of protected buildings
(4) the Historic Buildings Research Authority will be used only for research and not to purchase or maintain property,
(5) the Historic Buildings Research Authority will rely on an annual levy collected in equal amounts from each household in Charters Towers by the State Government on behalf of the Authority.
(6) there will be no changes to the rights to use private property.

Question 7. Please indicate your reaction to the proposal for a Historic Buildings Research Authority (circle a number below)

1. **generally agree with the proposal**
2. **the Authority's research is not needed to protect the old buildings**
3. **the old buildings are generally not worth keeping**
4. **residents should not pay for research to protect old buildings**
5. **none of above** (describe if you wish)

In Question 8 please state the maximum amount of money you are willing to pay from your household income each year for 5 years, for 3 protection programs (a), (b), (c). The Historic Buildings Research Authority will pick only one program from (a), (b) and (c) and the choice will depend on community support as indicated in the answers. These questions may seem an imposition in difficult economic times. They are asked only because the answers make the support for keeping old buildings more real, as household circumstances permit.
There is no correct or reasonable amount because impressions and economic capabilities are different.
Your answers influence "how much and which" buildings are protected, but remember there are other demands on your household income.
If it is hard to place a value for (a), (b), or (c), think of something you already buy that is nearly as important to you as the protection program and use its annual cost.

Question 8. What is the maximum amount you are willing to pay each year for 5 years to the Historic Buildings Research Authority for (a), (b), (c) :

(a) to protect all the historic places you named in answer to Question 6, $ _____

(b) to protect all the historic places inside the thick black line on the map, between Deane St. and Rutherford Lane, $ _____

(c) to protect all the historic places in the WHOLE of the area outlined in black on the map $ _____

SECTION 3 : Household

Question 9. Number of adults and children at your home ADULTS : CHILDREN:

Question 10. Number of years a resident of Charters Towers : YEARS :

Question 11. Occupation of any working adults :

If you would like to know the conclusions of the survey, place a sheet of paper with your address next to the completed questionnaire and the results will be posted. Thank you for your help in this survey. The summary will be passed to decision makers concerned with the future of the central business area.

Is there anything you would like to add ? :

6.2.3 Checks on Contingent Valuation Questions

The contingent valuation questions were checked for conformity with the Guidelines for Contingent Valuation in Chapter 5.4 :

1. *Definition of Commodity* : increased knowledge and protection.

2. *Welfare Measure* : consumer surplus, the amount the respondent was willing to pay for increased knowledge and protection.

3. *Benefit* : a nett increase for residents in the Non-use Preservation Benefit, Sustenance Benefit, Recreation Benefit, Opportunity Cost, Public Administration Cost and Public Cost of Relocation.

4. *Underlying environmental framework* : Model Of Environmental Assessment.

5. *Population* : adult residents of Charters Towers.

6. *Knowledge of Environmental Substitutes* : the residents' attitudes towards substitute historic areas was unknown.

7. *Motivation* : the sustenance of heritage values.

8. *Questionnaire Design* :

(a) A contingent valuation was an expression of 'willingness to pay' and not an expression of 'willingness to accept compensation'. Without a preservation program, building decay or demolition for redevelopment are expected.

(b) The questionnaire took about 20 minutes to complete.

(c) The respondents were told the survey was a university study and that the answers were confidential,

(d) Respondents were given the study area on a map, the numbers of historic buildings and protected buildings, but not their names.

(e) A scale of intensity was used in Questions 1 and 7. The other questions were open-ended.

(f) The questions did not require complex thinking.

(g) There were no benchmark bids or questions for income.

(h) A potential sequencing problem in the three parts (a),(b),(c) of Question 8 was mitigated by an explanatory statement which made it clear that only one payment was expected, although three contingent valuations are asked for.

The lack of experience in valuing substitute environmental goods may have been a deficiency if an absolute valuation was sought. However, the survey sought the valuations in order to compare hypothetical environmental improvements.

6.2.4 Procedures in Survey

6.2.4.1 Sample Method

A face-to-face survey, rather than telephone or mail methods, was used. Dillman (1978,p.52) reported the likelihood of response was higher with that method and recommended:

> in face to face interviews of the general public, area probability sampling methods are normally used. To draw such a sample, blocks or other geographic units are first randomly drawn. Then, dwelling units within each of these areas are similarly selected.(p.42).

The central residence in each street section, on both sides of the street, in the Charters Towers local government area was included in the survey. A random method of selection was not used because there were many vacant allotments in the city. There are no nearby settlements. It was a survey by one person and had to be kept within manageable limits.

6.2.4.2 Field Survey

Delivery of Questionnaire

The survey questionnaire was delivered to 216 households on the weekend of 24-25/10/92. Either adult head of the household was asked to complete the questionnaire and an arrangement was

made to collect it the next weekend or the following weekend.

Collection of Responses

In three days on 30/10/92 to 2/11/92, 102 questionnaires were collected. During the collection there were 76 residences at which no-one was at home, or at which no-one had considered the questionnaire. At 38 residences, the residents declined or seemed unwilling to complete the questionnaire. Their reasons included an objection to money questions, no time, don't know anything about Charters Towers, away on holidays, sick, elderly, leave it to the young ones, thrown out, confidential matter, new resident (during preceding week), and owners should look after old buildings.

On the 7/11/92 a second call was made to the 76 residences where 32 completed questionnaires were collected, 28 had no-one at home, 11 residents did not want to complete the questionnaire, and 5 later posted their answers.

Overview

At least two return calls were made to each household and 139 completed or partially completed responses (64%) were finally collected. The last of the 139 responses was received by post after the analysis was completed. Of the 77 questionnaires that were not collected, 49 arose from an inability or refusal on the part of the residents. There were 28 residences where no-one was available on at least 2 visits on separate weekends after delivering the questionnaire. The response rate of 64% is acceptable. Two useful benchmarks for acceptable response rates are Dillman (1978, p. 3) who reported that the completion rates on general population samples now average about 60%-65% in spite of call-backs, and Pope and Jones (1990, p. 163) who obtained a participation rate of 62%.

6.3 Inspection & Coding of Data

6.3.1 Inspection of Data

The comments below refer to the 138 questionnaires that were wholly or partly answered. Some respondents had a difficulty with Questions 4, 7 or 8. The most obvious reasons for not wholly completing the questionnaire were an objection to more bureaucracy (Question 7), and an objection to paying for protection of old buildings (Questions 7 and 8).

Question 4 (unity, or good fit) : For this question, 27 respondents gave a broad answer, "whole of street" or "whole area". This is a valid answer but it raises the possibility that the respondent did not think of any particular parts of the area that "fit well together". In 23 cases no answer was given, and in 4 cases the places named were outside the area on the map.

Question 7 : Fourteen respondents did not give their reaction to the proposal for a Historic Buildings Research Authority.

Question 8 (a),(b),(c) : Twenty-seven respondents did not answer either parts (a), (b), or (c) of Question 8. Of the 42 respondents who answered Question 7 by marking a "4" to mean "residents should not pay", 5 respondents gave a non-zero answer to at least one of (a) or (b) or (c), 30 respondents gave zero answers to each of (a), (b) and (c), and 7 respondents gave no answer to either (a),(b) or (c).

Question 11 : Fifty respondents (36%) reported there were no working adults in the household.

People in Survey

Each respondent's gender and estimated age were recorded on the completed questionnaire form by the interviewer when the questionnaire was collected at the residence. The age and sex

were not recorded on 11 completed questionnaires, which included those received by mail. In the sample there were 73 women and 54 men in the proportions of 57% and 43% respectively.

The number of people in the City of Charters Towers local government area, in 5-yearly age and sex groups, was obtained from data supplied by the Australian Bureau of Statistics. From that data the proportion of people in each 10-yearly age and sex group, aged 20 years or more, was calculated to prepare columns 2 and 3 in Table 6.2 below. The proportions of people in the survey sample in the age/sex groups are in Columns 4 and 5.

A comparison in Table 6.2 of the population and the sample shows that in the sample, women aged 40-50 are overrepresented and men aged 20-30 are underrepresented. With these two exceptions, the sample appears to represent the proportion of each age and sex group in the adult population in Charters Towers.

There is a common impression that the proportion of elderly people in Charters Towers is greater than in the general population. However, the Australian Bureau of Statistics data from the 1991 census shows the proportion of people in Charters Towers aged 60 or more years (16.7%) is not much more than for Townsville (14.2%) or for Queensland (15.9%).

TABLE 6.2 : Age/Sex Comparison of Population & Sample

	Population		Survey Sample	
Age	Male %	Female %	Male %	Female %
20 - 30	20	21	7	21
30 - 40	22	22	26	25
40 - 50	19	17	24	30
50 - 60	13	13	12	8
60 - 70	14	11	19	13
70 - 80	8	10	6	3
80 +	4	6	6	0
Total	100	100	100	100

Note : The percentage of the population of Charters Towers in each age/sex group was derived from the results of the 1991 census in the publication A.B.S. CDATA91 by the Australian Bureau of Statistics.

6.3.2 Coding of Data

In Chapter 5.5.4 the decision was made that the number of historic places in an answer should be the common measure in the opinion survey and the contingent valuation survey.

In Table 6.3 which follows, there is a code for each historic building, for the whole of Gill Street and for the whole of Mosman Street. The code number of each historic building named in response to Questions 3 to 7 was pencilled in the margin of each questionnaire. The number of historic places and the number of non-historic places were then assigned to the relevant variables in Table 6.4.

The variables are positive whole numbers, including zero, except for respondent's sex and street name of residence. Where no answer was given to a question, the value of the variable was blank. One respondent answered Question 8 with an amount of $3000. This amount was considered to be unrealistic on the basis of the person's circumstances at the time, and the answer was amended to a blank, no answer. No other data was altered. The procedure to code the data for Questions 4 and 11 was :

Question 4 : If the answer was broad, for example "whole of area/street", the procedure was to assign ***nhu***=1, and ***hu***=1, giving equal weight to non-historic and historic buildings which is consistent with the existing proportion of historic and non-historic buildings. If the response was "whole of Gill Street and Mosman Street", assign ***nhu***=2, and ***hu***=2.

These values are arbitrary. It is hard to fix a proper

weight for answers which use the whole street or the whole area. A non-zero value was used because the respondents did emphasise the cultural value of the street or area. It is possible that values greater than 1 and 2 should have been used. The decision was made before coding the data to discount any speculation of higher values since it was possible that respondents named the whole street or area because they could not think of, or name, individual places. Dummy variables with the values of 0 or 1 were not used because a value of 0 gave no weight at all to the responses that mentioned only a street. In chapter 6.5.4.2, under the heading *Second Multiple Regression*, larger values than 1 or 2 are temporarily substituted and the result indicates that respondents in future surveys who give the answer "whole of street" or "whole of area" should be questioned persistently to name buildings.

Question 11 : The answers, which were the occupations of working residents, were coded to their respective average weekly earnings using the publication Distribution And Composition Of Employee Earnings And Hours Australia ABS Catalogue No. 6306.0 May 1991 which was produced by the Australian Bureau of Statistics. The average weekly earnings of each person in the household were summed to give a household weekly income which is the variable ***Occupation "occ"*** in Table 6.4.

TABLE 6.3 : INDEX OF OLD BUILDINGS

OBJECT	ADDRESS	ORIGINAL NAME	CODE
house	1 Aland St		1
house	5 Aland St		2
house	7 Aland St		3
house	11 Aland St		4
house	16 Aland St		5
storage, grocer	36 Deane St	Benjamin's store	6
house	2 Hodgkinson St	Aldborough	995
house	3 Hodgkinson St		7
plant, industrial	19 Hodgkinson St	bakery	8
house	29 Hodgkinson St		9
storage	31 Hodgkinson St		10
house	35 Hodgkinson St		11
house	37 Hodgkinson St		12
School of Mines	24-26 Hodgkinson St	School of Mines	15
police lock-up	20-22 Hodgkinson St	lock-up	16
courthouse	28-32 Hodgkinson St	Court House	17
bell tower	134 Gill St	St Columba's Church	19
hotel	130-132 Gill St	Excelsior Hotel	20
shop	126-128 Gill St	Aridas Building	21
hotel	120-124 Gill St	Court House Hotel	22
shop	108-110 Gill St	Reardon's Caledonian House	23
shop	100-102 Gill St		24
shop	88-90 Gill St		25
shop	72-84 Gill St	Ross's Building	26
shops	68 Gill St		27
shop	58 Gill St	Davis & Co.	28
bank	52-56 Gill St	London Chartered Bank	29
shop	48-50 Gill St	Carses	30
bank	34-36 Gill St	Bank of NSW	31
shop	26 Gill St		32
shop	22-24 Gill St		33
shop	14 Gill St		34

TABLE 6.3 : INDEX OF OLD BUILDINGS

OBJECT	ADDRESS	ORIGINAL NAME	CODE
shop	1-7 Gill St	Ross's Building	35
shop	9-15 Gill St	Ross's Building	36
post office	17 Gill St	Post Office	37
shops	23-31 Gill St	Acker's Building	38
police station	51-55 Gill St	Police Barracks	996
shops	57-61 Gill St		39
theatre	65-69 Gill St		40
newspaper office	73 Gill St	Northern Miner	41
office	77 Gill St		42
shop	85 Gill St	Marr's Arcade	43
meetinghouse	89-95 Gill St	MU Hall	44
shop	28 Bow St		47
printer's shop	26 Bow St		48
shop	83-85 Mosman St	Bright's Stock and Mining Exchange	60
shop	87-89 Mosman St		61
shop	99-101 Mosman St	Whitehead Building	62
shop	103 Mosman St	Smith Building	63
hotel	119-121 Mosman St	Clark's Crown Hotel	64
shop	129 Mosman St	Wattle & Dab Club House	65
hotel	131 Mosman St	Club House Hotel	66
shop and office	56 Mosman St	Buckland Building	76
Royal Bank and office	64-66 Mosman	Buckland's Building	77
bank	70-72 Mosman St	Qld. National Bank	78
bank	74 Mosman St	Qld. National Bank	79
shop	76 Mosman St	Royal Arcade	80
office	84 Mosman St	Bright's Mining Exchange	81
bank	86 Mosman St	Aust. Bank Commerce	82
shop	90 Mosman St	Lyall's Jewellery Shop	83
shop	96 Mosman St	Ineson Building	84
hotel	98 Mosman St	Prince of Wales Hotel	85
hotel	100 Mosman St	Royal Hotel	86

TABLE 6.4 : VARIABLES IN SURVEY

Question	M.E.A Factor	Variable Name	Code	Description of Statistical Variable
1	Assess	Like	lik	Liking (1-3) of central business area
2	Need	Visit for Sustenance	vs	Number places visited for sustenance
"	"	Visit for Pleasure	vp	Number places visited for pleasure
3	Location	Non-historic Landmark	nhl	Number non-historic landmarks
"	"	Historic Landmark	hl	Number historic landmarks
4	Unity	Non-historic Unity	nhu	Number non-historic places in unity
"	"	Historic Unity	hu	Number historic places in unity
5	Disunity	Non-historic Disunity	nhdu	Number non-historic places in disunity
"	"	Historic Disunity	hdu	Number historic places in disunity
6	Know-ledge	Historic Places	hp	Number of important historic places named
7	-	Authority	hbra	Reaction (1-5) to proposed Historic Buildings Research Authority
8	-	Contingent Valuation	cva	Contingent valuation of program (a)
"	-	"	cvb	Contingent valuation of program (b)
"	-	"	cvc	Contingent valuation of program (c)
9	-	Adults	adu	Number of adults in household
"	-	Children	chi	Number of children in household
10	-	Years	yr	Years resident in Charters Towers
11	-	Occupation	occ	Weekly household income
-	-	Age	age	Estimated age of respondent

Notes : The M.E.A in the heading to column 2 is the Model of Environmental Assessment in Chapter 3

6.4 Preliminary Analysis of Data

This Chapter 6.4. describes the methods in the statistical analyses and then makes four preliminary analyses of the data.

6.4.1 Method in Statistical Analysis of Data

Statistical Tests

The statistical analysis was made with the Statgraphics Version 5 software from James Cook University which computes a statistic, "known as a **P-value**. On the Statgraphics output this is labelled **Sig. Level**" (Davies and Tremayne, 1991, p.6.6). For example, the P-value in a correlation matrix is the probability of obtaining the sample correlation coefficient of two variables while assuming the population correlation coefficient is zero, the Null Hypothesis. If the P-value is very small, say P-value ≤ 0.05, the Null Hypothesis of no correlation in the population is unlikely to be correct and it is rejected for the alternate hypothesis that the variables are correlated.

Assumptions in Statistical Analysis

According to Davies & Tremayne (1991, p.10.5), in order to test whether the data fit the null hypothesis and to calculate confidence intervals for the statistics, the residuals from the statistical fitting of data should satisfy these assumptions :

the residuals have zero mean and constant variance., they are mutually uncorrelated, they are normally distributed, and no heteroskedasticity.

Where the sample size is greater than 30, the Central Limit

Theorem has effect and "the t-distribution is virtually indistinguishable from the normal so that the output concerning means can still be used" (Davies & Tremayne, 1991, p.6.4).

Multicollinearity

Davies & Tremayne (1991) claim :

> the technique of multiple regression only comes into its own when the predictors are correlated.
> Multicollinearity refers to the effect in regression that is caused by including predictor variables that are highly correlated with one another, or that are highly correlated with some linear function of other predictors. At a simplified level, if predictor variables X1 and X2 are related, the inclusion of both of them in a regression may not add much to explaining variability in the dependent variable Y. A certain amount of redundant information is included and, as a result, standard errors of both coefficients are inflated, resulting in the coefficients turning out to be not significant. One general indication of multicollinearity is when a set of predictor variables appear, as a whole, to well explain the observed variability in the response, Y, (as indicated by a significantly high R-squared, for example) but, when examined individually via the usual t-tests on individual regression coefficients, some or all may appear to be insignificant.(pp.12.1,12.2).

Measures of Quality of Regression

Davies & Tremayne (1991) say :

> The quantity R-squared and the F-statistic (11.4) provide an overall measure and statistic associated with the quality of a multiple linear regression via the contribution from all predictor variables.(p.11.10).

The statistic R-squared is the proportion of the sum of squares of the observed values of the dependent variable that is explained by the predictor variables.

6.4.2 Summary of Data

There are descriptive statistics in Table 6.5 - Data Summary below for the nineteen variables named in Table 6.4. There are different sample sizes underlying Table 6.5 which are due to gaps in answers to questions on the questionnaire. Many variables have a statistic of standardized skewness greater than 2, not shown in the Table, which indicates they are not normally distributed.

The respondents in the survey, on average, visited 2.2 places for sustenance as against only 0.3 places for pleasure.

There were 124 responses to Question 7 which asked for a reaction to the proposed Heritage Buildings Research Authority. Sixty-five respondents (52.4%) agreed with the proposal and another 42 (33.9%) respondents thought residents should not pay for research to protect old buildings. Only eight (6.4%) respondents thought the Authority's research was not needed to protect old buildings. Five respondents (4%) thought the old buildings were not worth keeping and four respondents (3.2%) had other reactions to the proposed Authority.

The average of the annual amounts that households were willing to pay for five years for the three conservation programs (a), (b) and (c), were $23.5, $20.1 and $26.6 respectively. The highest amount was $500.

After the data summary in Table 6.5 there is the correlation matrix in Table 6.6 which is discussed in Chapter 6.4.3.

TABLE 6.5 : DATA SUMMARY FOR 19 VARIABLES

Variable	Sample size	Average	Median	Standard deviation	Mini -mum	Maxi -mum
Like	129	2.24	2	0.51	1	3
Visit for sustenance	133	2.30	2	1.35	0	6
Visit for pleasure	134	0.28	0	0.6	0	4
Non-historic landmark	134	0.43	0	0.65	0	3
Historic landmark	133	2.56	2	1.92	0	11
Non-historic unity	115	0.62	0	0.97	0	5
Historic unity	115	1.58	1	1.71	0	10
Non-historic disunity	120	0.91	1	0.91	0	4
Historic disunity	119	0.28	0	0.65	0	4
Historic places	123	2.07	2	1.86	0	12
Historic bldgs res auth.	123	2.27	1	1.46	1	5
Contingent valuation (a)	96	23.5	0	66.0	0	500
Contingent valuation (b)	96	20.1	0	57.3	0	400
Contingent valuation (c)	106	26.6	0	65.9	0	500
Adults	135	2.05	2	0.65	1	4
Children	76	1.74	2	1.32	0	7
Years (resident)	130	23.7	19.0	22.49	0.1	83
Occupation (income)	135	626	500	420	160	2400
Age (respondent)	128	43.5	40	14.3	20	84

TABLE 6.6 : CORRELATION COEFFICIENTS

	lik	cva	vs	vp	hl	nhl	hu	hdu	nhu	nhdu	hp
lik : Like	1.0 .00	.16 .18	.04 .69	.03 .79	.05 .63	-.01 .93	.26 .02	.10 .39	-.09 .43	.03 .74	.44 .00
cva : Contingent valuation (a)	.16 .18	1.0 .00	.23 .04	.14 .22	.53 .00	.21 .07	-.02 .86	.38 .00	.04 .71	.36 .00	.51 .00
vs : Visit for sustenance	.04 .69	.23 .04	1.0 .00	-.15 .21	.61 .00	.25 .03	.24 .04	.41 .00	.24 .04	.33 .00	.34 .00
vp : Visit for pleasure	.03 .79	.14 .22	-.15 .21	1.0 .00	.14 .22	-.02 .80	.05 .66	-.06 .62	-.22 .06	.29 .01	.08 .47
hl : Historic landmark	.05 .63	.53 .00	.61 .00	.14 .22	1.0 .00	.27 .02	.20 .09	.53 .00	.07 .55	.58 .00	.49 .00
nhl : Non-historic landmark	-.01 .93	.21 .07	.25 .03	-.02 .80	.27 .02	1.0 .00	-.05 .63	.21 .07	.08 .46	-.00 .94	.09 .41
hu : Historic unity	.26 .02	-.02 .86	.24 .04	.05 .66	.20 .09	-.05 .63	1.0 .00	.27 .02	.10 .37	.38 .00	.22 .06
hdu : Historic disunity	.10 .39	.38 .00	.41 .00	-.06 .62	.53 .00	.21 .07	.27 .02	1.0 .00	.08 .51	.31 .00	.34 .00
nhu : Non-historic unity	-.09 .43	.04 .71	.24 .04	-.22 .06	.07 .55	.08 .46	.10 .37	.08 .51	1.0 .00	.02 .82	.15 .20
nhdu : Non-historic disunity	.03 .74	.36 .00	.33 .00	.29 .01	.58 .00	-.00 .94	.38 .00	.31 .00	.02 .82	1.0 .00	.35 .00
hp : Historic places	.44 .00	.51 .00	.34 .00	.08 .47	.49 .00	.09 .41	.22 .06	.34 .00	.15 .20	.35 .00	1.0 .00
occ : Occupation (income)	-.01 .88	.43 .00	.21 .07	-.04 .74	.24 .04	.06 .60	.08 .47	.20 .09	-.10 .38	.32 .00	.03 .80

Note : In the calculation of the correlation coefficients, the listwise option was used which meant that the sample values came only from those respondents, 68 in number, who gave answers for all twelve variables above.

6.4.3 Correlation Matrix

6.4.3.1 Description

Table 6.6 has the sample correlation matrix for the variables in Equations 1 and 2 in Chapter 6.1.2. It was calculated with listwise treatment of missing data. The matrix has 2 statistics in each of the 12x12 cells, the correlation coefficient and the P-value. The variables with correlations coefficients that are significantly different from zero (P-value =< 0.05) are shown underlined and in bold.

6.4.3.2 Interpretation of Correlation Matrix

In the correlation matrix in Table 6.6, the highest positive correlation coefficient is +0.61 between ***Visit for Sustenance "vs"*** and ***Historic Landmarks "hl"***. The only negative correlation of any note, with a P-value of 0.06, is the correlation coefficient of -0.22 between ***Visit for Pleasure "vp"*** and ***Non-Historic Unity "nhu"*** which associates pleasure with non-historic buildings that function or fit well together.

Like "lik"

The dependent variable ***Like "lik"*** is significantly correlated with the two predictor variables ***Historic Unity "hu"*** and ***Historic Places "hp"*** in Equation 1 (ch.6.1.2) but not with the other predictors.

While the variable ***Like "lik"*** is significantly correlated with ***Historic Place "hp"***, which in turn is significantly correlated with ***Historic Landmark "hl"***, the variable ***Like "lik"*** is not significantly correlated with ***Historic landmark "hl"***.

Contingent Valuation "cva"

The variable ***Contingent Valuation "cva"***, residents' willingness to pay for conservation, is not significantly correlated with residents' opinion of the area expressed in the variable ***Like "lik"***. An explanation is that a liking for the area depends on the satisfaction of both heritage needs and non-heritage needs, whereas a contingent valuation is looking past the present assessment to a proposed improvement in heritage benefits. The assessment and the contingent valuation present two different problems to the resident.

The respondents' contingent values were based on the buildings that the respondent named in Question 6. Respondents therefore based their values on different buildings. The justification for the survey of contingent values based on individually selected buildings is in the environmental/economic hypothesis in Chapters 5.5.3.3 and 6.1.1 where each value is the nett benefit to the respondent from the protection of those heritage buildings known to the respondent. These buildings are represented by the factor of Knowledge in the Model of Environmental Assessment.

The dependent variable ***Contingent Valuation "cva"*** is correlated with six predictor variables : ***Historic Places "hp"***, ***Visit for Sustenance "vs"***, ***Historic Landmark "hl"***, ***Historic Disunity "hdu"***, ***Non-historic Disunity "nhdu"***, and ***Occupation "occ"***. The first five survey variables represent the four explanatory factors of Knowledge, Need, Location and Unity in

the Model of Environmental Assessment. The significant correlation between ***Contingent Valuation "cva"*** and ***Occupation "occ"*** is expected because 'willingness to pay' reflects the residents' 'ability to pay'. The variable ***Historic Unity "hu"***, which represents the explanatory factor of Unity in the Model, is not correlated with ***Contingent Valuation "cva"***.

Visit for Sustenance "vs"

The variable ***Visit for Sustenance "vs"*** is significantly correlated with all predictor variables except two, ***Occupation "occ"*** and ***Visit for Pleasure "vp"***. Consequently, variable ***Visit for Sustenance "vs"*** is expected to produce the multicollinearity effect in the regressions. The correlations indicate the more that people went to the area for sustenance reasons, the more they were able to provide responses to the questions concerning landmarks, unity and important buildings. The more places that residents visit in the area, the more they perceive both disunity and unity.

The correlation coefficient of ***Visit for Sustenance "vs"*** and ***Occupation "occ"*** is positive and it has a P-value of 0.076 which corroborates an expectation that people with high incomes visit more places in the central commercial area for sustenance (shopping and business) than do people with low incomes.

Residents have a propensity to visit the area for Sustenance or Pleasure, but not both, as indicated by the negative (but not significant) correlation between ***Visit for Pleasure "vp"*** and ***Visit for Sustenance "vs"***.

Historic Landmarks "hl"

The variable ***Historic Landmarks "hl"*** is significantly correlated with ***Contingent Valuation "cva"***, ***Visit for Sustenance "vs"***, ***Non-Historic Landmarks "nhl"***, ***Historic Disunity "hdu"***, ***Non-Historic Disunity "nhdu"***, ***Historic Places "hp"*** and ***Occupation "occ"***. This variable is also likely to produce the multicollinearity effect in the regressions.

The variables ***Historic Landmarks "hl"*** and ***Non-Historic Landmarks "nhl"*** are significantly and positively correlated which indicates that residents who are aware of historic landmarks are also aware of non-historic landmarks.

The correlation between the variables ***Historic Landmarks "hl"*** and ***Historic Disunity "hdu", but not Historic Unity "hu"*** is an indication that landmarks take on greater importance when there is disunity and that the concept of historic landmark is something that is distinct from the concept of unity in the environment. This distinction is consistent with the Model of Environmental Assessment.

Historic Unity "hu"

The variable ***Historic Unity "hu"*** is significantly correlated with variables ***Like "lik"***, ***Visit for Sustenance "vs"***, ***Historic Disunity "hdu"*** and ***Non-Historic Disunity "nhdu"***. The correlations indicate the level of awareness of historic places that "look good together or function well together" is associated with familiarity with the area and with an awareness of the historic and non-historic places that do not fit together.

The variables ***Historic Unity "hu"*** and ***Non-Historic Unity "nhu"*** are not correlated.

Occupation "occ" - Income Effect

The variable ***Occupation "occ"*** is correlated with ***Contingent Valuation "cva"***, ***Non-historic Disunity "nhdu"*** and ***Historic Landmarks "hl"*** but not with ***Historic Places "hp"*** or with residents' opinion of the area in variable ***Like "lik"***.

A concern for historic places was said to come from those people who are more affluent (Gold, 1976), but the lack of a correlation between ***Occupation "occ"*** and ***Historic Places "hp"*** does not support that contention.

Historic Buildings Research Authority "hbra"

A value of "1" for the variable ***Historic Buildings Research Authority "hbra"*** indicated support for the proposed Authority whereas a value of "4" indicated that residents should not pay to protect old buildings. The values of "1" or "4" encompassed 86% of responses.

The correlations between the ***Historic Buildings Research Authority "hbra"*** and other variables are not shown in Table 6.6. The variable was significantly and negatively correlated with ***Contingent Valuation "cva"*** (r=-0.29, p=.017), ***Historic Unity "hu"*** (r=-0.26, p=.031), ***Historic Landmarks "hl"*** (r=-0.26, p=.034) and ***Historic Places "hp"*** (r=-0.28, p=.024). These correlations were expected and consistent with the environmental/economic hypothesis in Chapter 6.1.1.

6.4.3.3 Conclusions for Model of Environmental Assessment

The positive and significant correlations between the variable ***Visit for Sustenance "vs"*** and the other environmental variables suggest that residents who visit the area do in fact relate to the factors in the Model of Environmental Assessment.

The variables ***Historic Landmarks "hl"*** and ***Historic Unity "hu"*** were not correlated and this supported the hypothesis that they are independent explanatory factors in the Model.

The variable ***Like "lik"*** which is the residents' overall assessment of the area, for heritage needs and non-heritage needs, is significantly correlated with the two variables ***Historic Unity "hu"*** and ***Historic Places "hp"*** which are explanatory variables for the factors of Unity and Knowledge respectively in the Model of Environmental Assessment. These two correlations lead to a rejection of the null hypothesis that the factors of Unity and Knowledge in the Model of Environmental Assessment are not explanatory factors in an assessment of the area.

The correlations were consistent with the environmental and economic hypotheses in Chapter 6.1.1 which underlay the opinion and contingent valuation survey.

Separation of Historic & Non-historic Perceptions

The correlations between the dependent variable ***Like "lik"*** and the predictor variables ***Historic Unity "hu"*** and ***Historic Places "hp"*** indicate that respondents separated historic matters from non-historic matters when they assessed the area. Similarly, the lack of correlation between the variables ***Historic Unity "hu"***

and ***Non-Historic Unity "nhu"*** indicates that residents separated historic matters from non-historic matters when they considered the positive aspects of unity in the historic area.

However, residents joined historic and non-historic matters when they considered landmarks as shown by the correlation between the variables ***Historic Landmarks "hl"*** and ***Non-Historic Landmarks "nhl"***. The correlations between the variables ***Historic Disunity "hdu"*** and ***Non-historic Disunity "nhdu"*** indicate residents joined historic matters and non-historic matters when they considered the negative aspects of the area. Consequently, there is no overall conclusion from the correlations to reject the practical limitation in the Model in respect of assessments for multiple-needs that was noted in Chapter 3.7.

6.4.4 Two Sample Analysis

In the data summary in Table 6.5 the mean of ***Contingent Valuation variable "cva"***, $23.5, is similar to the means of the other two ***Contingent Valuation*** variables "cvb" and "cvc", $20.1 and $26.6 respectively.

In Table 6.7, a two sample analysis of pairs drawn from the three variables ***Contingent Valuation "cva", "cvb"*** and ***"cvc"*** showed there were no significant differences in the means and variances of the three variables.

TABLE 6.7 : TWO-SAMPLE ANALYSIS OF VALUATIONS

Two-Sample Analysis of Contingent Valuations (a) and (b)

	cva : Contingent valuation (a)	cvb : Contingent valuation (b)	Pooled
No. of Observations	96	96	192
Mean	23.5	20.1	21.8
Standard Deviation	66	57	62

Hypothesis Test

Hypothesis Test H0 : Difference of Means = 0	Computed t statistic = 0.38
Alternative Hypothesis : Means not equal	Sig. Level = 0.70
at Alpha = 0.05	so do not reject H0

Two-Sample Analysis of Contingent Valuations (a) and (c)

	cva : Contingent valuation (a)	cvc : Contingent valuation (c)	Pooled
No. of Observations	96	106	202
Mean	23.5	26.6	25.1
Standard Deviation	66	66	66

Hypothesis Test

Hypothesis Test H0 : Difference of Means = 0	Computed t statistic = -0.33
Alternative Hypothesis : Means not equal	Sig. Level = 0.74
at Alpha = 0.05	so do not reject H0

Two-Sample Analysis of Contingent Valuations (b) and (c)

	cvb : Contingent valuation (b)	cvc : Contingent valuation (c)	Pooled
No. of Observations	96	106	202
Mean	20.1	26.6	23.5
Standard Deviation	57	66	62

Hypothesis Test

Hypothesis Test H0 : Difference of Means = 0	Computed t statistic = -0.74
Alternative Hypothesis : Means not equal	Sig. Level = 0.46
at Alpha = 0.05	so do not reject H0

6.4.5 Categorical Data Analysis

A categorical data analysis (Davies & Tremayne 1992, p.8.1) was made to test whether the variable ***Like "lik"*** was statistically independent of each of the other variables in Equation 1 in Chapter 6.1.2. If the significance level in the chi-square test was less than or equal to .05, the hypothesis was rejected.

The fact that some cells had no values was an indication that some categories should be collapsed. The variable ***Like "lik"*** had 3 categorical values of 1, 2, or 3. There were only 4 responses with the category 1 value that also had a response for another variable. Consequently the category 1 response was collapsed and amalgamated with the category 2 response in a new variable ***"liktemp"***.

The cross-tabulation and chi-square test in Table 6.8 on each of the variables in Table 6.4 produced two significant associations between the variable ***"liktemp"*** with the variable ***Historic Unity "hu"*** and with variable ***Historic Places "hp"***. This result was consistent with the correlation matrix in Table 6.6. The lower entry in each cell in Table 6.8 is the percentage of the whole column in the cell. The test produced warnings regarding low counts in some cells.

The categorical data analysis rejected the hypothesis that the variable ***Like "lik"*** was not correlated with the variable ***Historic Unity "hu"*** and the variable ***Historic Places "hp"***.

TABLE 6.8 : CATEGORICAL DATA ANALYSIS

Cross-tabulation of variables Historic Unity (**hu**) and **liktemp**

hu liktemp	0	1	2	3	4	Row Total
2	26 86.7	27 71.1	12 66.7	4 36.4	1 20.0	76 69.1
3	4 13.3	11 28.9	6 33.3	7 63.6	4 80.0	34 30.9
Column Total	30 27.3	38 34.5	18 16.4	11 10.0	5 4.5	110 100.0

Summary Statistics for Contingency Table

Chi-square	D.F.	Significance
19.2	8	0.01

WARNING : Expected values in 11 cells ‹ 5 and 8 cells ‹ 2.

Cross-tabulation of variables Historic Places (**hp**) and **liktemp**

hp liktemp	0	1	2	3	4	Row Total
2	24 92.3	20 71.4	19 76.0	6 50.0	11 68.8	84 72.4
3	2 7.7	8 28.6	6 24.0	6 50.0	5 31.3	32 27.6
Column Total	26 22.4	28 24.1	25 21.6	12 10.3	16 13.8	116 100.0

Summary Statistics for Contingency Table

Chi-square	D.F.	Significance
16.0	8	0.04

WARNING : Expected values in 10 cells ‹ 5 and 6 cells ‹ 2.

Note : The warnings arise because few respondents gave a category 3 (or a category 1) answer to Question 1, for their degree of liking of the historic area.

6.5 Test of Model of Environmental Assessment - by Opinion Survey

6.5.1 Outline

In the following Chapters 6.5.2 - 6.5.4, linear regressions were made of the dependent variable of ***Like "lik"*** on the explanatory variables in Equations 1 to test the Model of Environmental Assessment and the associated environmental hypothesis in Chapter 6.1.1.

Five methods were used to regress the variable ***Like "lik"***. The logit and probit methods were used because they are alternative theoretically correct methods. The linear probability method was used because its *t* statistics are exact, not asymptotic as are the *t* ratios in the logit and probit methods. The fourth and fifth regressions of variable ***Like "lik"*** used the simple and multiple ordinary least squares methods because they are familiar methods. The last three methods have theoretical imperfections but they were useful to the extent that they provided results that were not inconsistent with the logit and probit methods.

6.5.2 Probit and Logit Methods of Regression

Both methods used ungrouped data and the maximum likelihood method to find the best estimates for the regression coefficients. The software program Shazam (White 1993) was chosen to carry out the analysis. It "will do multiple probit or logit regression on a single equation where the dependent variable - - - is a 0-1 dummy variable" (p.255). There was only one

observation where the variable ***Like "lik"*** took the value "1" while all its explanatory variables had non-empty values, and this observed value of the variable ***Like "lik"*** was changed to "2". The quantity 2 was then deducted from each observation so that each observation took the value "0" or "1" and these observations were renamed as the variable ***"liktemp"*** for the purpose of the regressions by the logit, probit and linear probability models.

The results from the logit and probit regressions were almost identical because the sample (93) was not very large, the dependent variable took only two values, and the normal distribution used in the probit method is very similar to the logistic distribution used in the logit method (Maddala, 1983, pp. 9, 11). The magnitudes of the regression coefficients from the logit and probit analyses are not directly comparable (Maddala, 1983, p. 23) but the coefficients did have the same signs. Only the results of the logit regression are discussed below.

Results of Logit Regressions

Table 6.9 below has the results of two logit regressions of variable ***"liktemp"***. The first uses all the explanatory variables in Equation 1 and the second uses only the last four explanatory variables because they were the most significant.

Both regressions of the variable ***"liktemp"*** gave a reasonably good fit to the observed data. First, the independent variables ***Historic Unity "hu"*** and ***Historic Places "hp"*** had statistically significant regression coefficients as indicated by the T-ratios,

and the coefficients were positive as expected in the Model of Environmental Assessment. Second, the null hypothesis that all the slope coefficients were zero was rejected because the maximum value of the log likelihood function under the null hypothesis, the log-likelihood (0) statistic, was less than the log-likelihood function (White, 1993, p.256). Third, the null hypothesis that the regression coefficients of the explanatory variables were zero was rejected by the likelihood ratio test (asymptotic chi-squared distribution). The R-squared test was low and not statistically significant. However, a low R-squared obtained "when calculating correlation between a binary dependent variable and the predicted probabilities need not imply that the model is no good" (Maddala, 1983, p.38). The prediction tables in Table 6.9 state the regression model predicted 75% and 76% of the values of variable ***"liktemp"***. If the regression was a perfect fit of the variable ***"liktemp"*** on the explanatory variables, the prediction rate would be 100%. If the regression model was no good, the proportion would have been more like 50%. The results suggest the fit is reasonably good. The research is not applying an existing environmental theory, but rather is exploring a new field with a new environmental model.

The actual coefficients cannot be used to estimate an effect on the variable ***Like "lik"*** because the regressand variable ***"liktemp"*** was a transformation of variable ***Like "lik"***.

TABLE 6.9 : TWO LOGIT REGRESSIONS FOR VARIABLE *"liktemp"*

VARIABLE NAME	ESTIMATED COEFFICIENT	ASYMPTOTIC T-RATIO
VS	-0.158	-0.620
VP	0.411	0.859
NHL	-0.365	-0.742
HL	0.201	0.910
NHU	-0.015	-0.057
HU	0.408	2.10
NHDU	-0.532	-1.49
HDU	-0.605	-1.22
HP	0.455	2.86
CONSTANT	-2.15	-3.21

LOG-LIKELIHOOD(0) = -54.7 LOG-LIKELIHOOD FUNCTION = -46.0
LIKELIHOOD RATIO TEST = 17.5 WITH 9 D.F.

CRAGG-UHLER R-SQUARE 0.25
MCFADDEN R-SQUARE 0.16
ADJUSTED FOR DEGREES OF FREEDOM 0.07
APPROXIMATELY F-DISTRIBUTED 0.21 WITH 9 AND 10 D.F.

PREDICTION SUCCESS TABLE

		ACTUAL 0	ACTUAL 1
PREDICTED	0	60.	17.
	1	6.	9.

NUMBER OF RIGHT PREDICTIONS = 69.0
PERCENTAGE OF RIGHT PREDICTIONS = 75%

VARIABLE NAME	ESTIMATED COEFFICIENT	ASYMPTOTIC T-RATIO
HU	0.347	1.95
NHDU	-0.338	-1.10
HDU	-0.555	-1.33
HP	0.441	3.05
CONSTANT	-2.06	-4.11

LOG-LIKELIHOOD(0) = -54.7 LOG-LIKELIHOOD FUNCTION = -47.4
LIKELIHOOD RATIO TEST = 14.6 WITH 4 D.F.

CRAGG-UHLER R-SQUARE 0.21
MCFADDEN R-SQUARE 0.13
ADJUSTED FOR DEGREES OF FREEDOM 0.094
APPROXIMATELY F-DISTRIBUTED 0.193 WITH 4 AND 5 D.F.

PREDICTION SUCCESS TABLE

		ACTUAL 0	ACTUAL 1
PREDICTED	0	61.	17.
	1	5.	9.

NUMBER OF RIGHT PREDICTIONS = 70.0
PERCENTAGE OF RIGHT PREDICTIONS = 76%

6.5.3 Linear Probability Model

The binary variable ***"liktemp"***, which has the values of 0 or 1, was regressed on the variables ***Historic Unity "hu"***, ***Non-historic Disunity "nhdu"***, ***Non-Historic Unity "nhu"*** and ***Historic Places "hp"***. These were the most significant explanatory variables in Table 6.9. The results are in Table 6.10 below.

The linear probability method has two disadvantages : the error terms in the regression model are a function of the dependent variable and not normally distributed, and the predicted values from the regression can lie outside the range of 0 to 1 (Maddala, 1983, p. 16 ; Kennedy, 1985, p. 189-190).

An advantage that the linear probability model has over the asymptotic *t* ratios in the logit and probit methods is found in Maddala's (1983, p. 21) claim that the t-statistics for testing the regression coefficients "really do have *t* distributions - - - despite the binary form of the dependent variable".

Consequently, the regression coefficients of the variables ***Historic Unity "hu"*** and ***Historic Places "hp"*** in Table 6.10 are confidently considered to be statistically significant at the 0.05 level.

TABLE 6.10 : LINEAR PROBABILITY MODEL - REGRESSION OF VARIABLE *"liktemp"*

VARIABLE NAME	ESTIMATED COEFFICIENT	T-RATIO 88 DF
HU	0.059	1.8694
NHDU	-0.058	-1.1142
HDU	-0.988	-1.4520
HP	0.862	3.4408
CONSTANT	0.105	1.3636

R-square = 0.1623 R-square adjusted = 0.1243

6.5.4 Ordinary Least Squares Regressions of Variable ***Like "lik"***

The variable ***Like "lik"*** was regressed on the explanatory variables in Equation 1 in simple and multiple linear regressions. It is an ordered categorical variable and the ordinary least squares regressions introduced the problem of non-normality in the distribution of the error term which in turn made the estimates of the regression coefficients biased and the *t* statistics unreliable.

6.5.4.1 Simple Linear Regressions On Variable ***Like "lik"***

In separate simple linear regressions, the dependent variable ***Like "lik"*** was regressed on each predictor variable (regressor) in Equation 1 in Chapter 6.1.2.1. The four variables ***Visit for Pleasure "vp"***, ***Historic Landmark "hl"***, ***Historic Unity "hu"*** and ***Historic Places "hp"*** were the only regressors from Equation 1 to have significant coefficients of regression, they had positive coefficients and they respectively explained 5.3%, 3.0%, 6.1% and 7.4% of the variability in variable ***Like "lik"***.

6.5.4.2 Multiple Linear Regression On Variable ***Like "lik"***

The following Table 6.11 has the results of two multiple regressions of the variable ***Like "lik"***, first on all the explanatory variables in Equation 1 and then on the two significant variables ***Historic Unity "hu"*** and ***Historic Places "hp"***.

First Multiple Regression

The coefficients for the two variables ***Historic Unity "hu"*** and ***Historic Places "hp"*** were significantly different from zero (P-values ≤ 0.05). The null hypothesis that all the coefficients in the regression were zero was therefore rejected.

TABLE 6.11 : REGRESSIONS OF VARIABLE ***Like "lik"***

First Multiple Regression of Variable ***Like "lik"***

Predictor Variable in Equation 1	coefficient	standard error	t-value	significance level (P)
Constant	2.05	0.11	18.76	0.00
Visit for sustenance : vs	0.00	0.04	-0.10	0.91
Visit for pleasure : vp	0.09	0.09	1.00	0.31
Historic landmark : hl	0.02	0.04	0.57	0.56
Non-historic landmark : nhl	-0.03	0.07	-0.41	0.68
Historic unity : hu	0.06	0.03	1.95	0.05
Historic disunity : hdu	-0.09	0.07	-1.19	0.23
Non-historic unity : nhu	-0.02	0.05	-0.43	0.66
Non-historic disunity : nhdu	-0.09	0.06	-1.53	0.12
Historic place : hp	0.08	0.02	3.18	0.00

R-squared (Adj.) = 0.1075 ; R-squared = 0.195 ; 92 observations fitted

Analysis of Variance for the Full Regression

Source	sum of squares	degrees freedom	F-Ratio	significance level (P)
Model	3.95	9	2.21	.02
Error	16.2	82		
Total (Corr.)	20.2	91		

Second Multiple Regression of Variable ***Like "lik"***

Predictor Variable in Equation 1	coefficient	standard error	t-value	significance level (P)
Constant	2.08	0.07	28.68	0.00
Historic unity : hu	0.03	0.02	1.14	0.25
Historic place : hp	0.07	0.02	3.05	0.00

R-squared (Adj.) = 0.098 : R-squared = 0.11 ; 103 observations fitted

Analysis of Variance for the Full Regression

Source	sum of squares	degrees freedom	F-Ratio	significance level (P)
Model	2.64	2	6.55	.00
Error	20.18	100		
Total (Corr.)	22.8	102		

TABLE 6.12 : OBSERVED and PREDICTED VALUES of VARIABLE ***Like "lik"***

		PREDICTED		
	Like "Lik"	1	2	3
OBSERVED	1	0	1	0
	2	0	62	3
	3	0	17	9

Percentage of right predictions = 77%

In Table 6.11, the first multiple regression explained 19.5% (R-squared), or 10.7% with R-squared adjusted for degrees of freedom, of the variability in variable ***Like "lik"***. This amount of explanation was statistically significant. The ordinal nature of the dependent variable ***Like "lik"*** means that the sum of squares of the residuals in the ordinary least squares regression will be higher than would be the case if the variable took on continuous values in the range 1 to 3. Consequently, the low values of R-squared in Table 6.11 for the ordinary least squares regressions of variable ***Like "lik"*** were not surprising.

Second Multiple Regression

In the second multiple regression in Table 6.11, the variable ***Like "lik"*** was regressed on the two variables ***Historic Unity "hu"*** and ***Historic Places "hp"***. The two variables explained a significant amount of the variance in the variable ***Like "lik"***, their regression coefficients had a positive sign which is expected from the hypotheses in the Model of Environmental Assessment, but the coefficient for the variable ***Historic Unity "hu"*** was not significant at the 0.05 probability level.

The Statgraphics software flagged 9 observations as outliers in the regression. In seven of these nine observations, the variable ***Like "lik"*** had the value "3" and in four of these seven observations the variable ***Historic Places "hp"*** had the value "1" or "2" because the respondents' answer to Question 6 was "whole of the street" or "whole area". These four responses for variable ***Historic Places "hp"*** were then temporarily altered by

substituting the greater number of landmarks given in answer to Question 3, and another regression was then made. The temporary substitution was made because other respondents had duplicated their answers to Questions 3 and 6. The result was that the significance of the regression coefficients did not change but R-squared increased to 27.6% and R-squared, adjusted for degrees of freedom, increased to 19.8%. The result is not tabulated in the thesis. The implication for any future survey is that those respondents who give general answers such as "whole of street or area" should be questioned further for the names of buildings.

Predictions From First Regression

The predicted values of variable ***Like "lik"*** from the first multiple regression, which lay between 1.78 and 2.82, were then rounded to the nearest ordinal number and tabulated with the observed values in Table 6.12. The regression predicted 71 of the 92 observations of the variable ***Like "lik"***, a 77% success rate.

In Table 6.12, there is only one observation where the variable ***Like "lik"*** has the value of 1. In the survey, another five respondents gave an opinion score of "1" but their answers were not included in the statistical analysis because they did not provide answers for all the Questions 2 to 6. Respondents who had a low opinion of the area seemed less likely to provide explanations for that low opinion and more care should be taken in a future survey to draw out the answers to all questions.

Problems in Estimates of Significance

The residuals from the regression were tested to find whether they were normally distributed. Their distribution had a coefficient of skewness of 0.53 which was statistically significant, and a test for goodness of fit to the normal distribution also indicated the residuals were very unlikely to have a normal distribution. Consequently the tests of significance in the first multiple regression were unreliable.

6.5.5 Conclusions from Regression of Variable ***Like "lik"***

The logit and probit methods and the linear probability model found the variable ***Historic Unity "hu"*** and the variable ***Historic Places "hp"*** were statistically significant explanatory variables in the regress of variable ***Like "lik"***. The regressions explained 75% - 76% of the observed values of variable ***"liktemp"*** and they indicated the two factors of Unity and Knowledge in the Model of Environmental Assessment are reasonably useful to explain an opinion of an environment. These conclusions also applied to the multiple ordinary least squares regressions. The variable ***Historic Landmark "hl"*** was only found to be statistically significant in the simple ordinary least squares regression.

The logit method and the linear probability model both removed the otherwise inconclusive tests of significance for the two variables ***Historic Unity "hu"*** and ***Historic Places "hp"*** in the ordinary least squares regression of the variable ***Like "lik"*** on the explanatory variables in Equation 1 in Chapter 6.1.2.1.

6.6 Test of Model of Environmental Assessment - by Contingent Valuation Survey Method

6.6.1 Outline

The dependent variable ***Contingent Valuation "cva"*** was regressed on the explanatory variables in Equations 2 to test the Model of Environmental Assessment as an underlying environmental framework in the joint environmental/economic hypothesis in Chapter 6.1.1.

Three separate equations and regression models for each conservation program (a), (b), and (c) were not needed because there was no statistical difference between the means of the three ***Contingent Valuation*** variables ***"cva"***, ***"cvb"***, ***"cvc"***, noted in Chapter 6.4.4. Table 6.13 below has the results of two multiple regressions of the variable ***Contingent Valuation "cva"***.

6.6.2 First Multiple Regression

The first regression of the dependent variable ***Contingent Valuation "cva"***, on the ten predictor variables in Equation 2 in Chapter 6.1.2.2 and the variable ***Like "lik"***, had an R-squared value of 57.7% and an associated P-value of 0.00. The null hypothesis, that all the population coefficients in the regression were zero, was consequently rejected.

The t-tests on the sample coefficients for the variables ***Historic Landmarks "hl"***, ***Historic Unity "hu"***, ***Historic Places "hp"*** and ***Occupation "occ"*** were significant.

TABLE 6.13 : REGRESSION OF VARIABLE
Contingent Valuation (a) "cva"

First Multiple Regression of *Contingent Valuation (a) "cva"*

Predictor Variable in Equation 2	coefficient	standard error	t-value	significance level (P)
Constant	-73.57	40.20	-1.82	0.07
Like : lik	7.31	17.19	0.42	0.67
Visit for sustenance : vs	-10.72	6.88	-1.55	0.12
Visit for pleasure : vp	14.79	15.46	0.95	0.34
Historic landmark : hl	12.13	6.12	1.98	0.05
Non-historic landmark : nhl	7.71	9.51	0.81	0.42
Historic unity : hu	-10.22	4.85	-2.10	0.03
Historic disunity : hdu	13.33	11.37	1.17	0.24
Non-historic unity : nhu	6.41	7.25	0.88	0.38
Non-historic disunity : nhdu	0.60	9.74	0.06	0.95
Historic places : hp	14.13	4.48	3.14	0.00
Occupation : occ	0.08	0.01	4.06	0.00

R-squared (Adj.) = 0.494 ; R-squared = 0.577 ; 68 observations fitted

Second Multiple Regression of *Contingent Valuation (a) "cva"*

Predictor Variable in Equation 2	coefficient	standard error	t-value	significance level (P)
Constant	-65.2	14.6	-4.45	0.00
Historic landmark : hl	12.20	3.83	3.17	0.00
Historic unity : hu	-9.22	4.09	-2.24	0.02
Historic place : hp	15.02	3.54	4.23	0.00
Occupation : occ	0.070	0.01	4.27	0.00

R-squared (Adj.) = 0.475 ; R-squared = 0.503 ; 76 observations fitted

6.6.3 Second Multiple Regression

In the second regression in Table 6.13, the dependent variable ***Contingent Valuation "cva"*** was regressed on the four predictor variables ***Historic Places "hp"***, ***Historic Landmarks "hl"***, ***Historic Unity "hu"*** and ***Occupation "occ"***. The coefficients of these four regressors were statistically significant and the regression has the mathematical form :

cva = -65.2 + 12.2 hl - 9.2 hu + 15 hp + 0.070 occ

The units of measurement of the variables in the equation are : dollars per year (for five years) in variable ***Contingent Valuation "cva"*** ; dollars of fortnightly household income in variable ***Occupation "occ"*** ; and the number of historic buildings in the variables ***Historic Places "hp"***, ***Historic Landmarks "hl"*** and ***Historic Unity "hu"***.

The regression model of these four predictor variables explained 50.3% (R-squared) of the variability in the dependent variable ***Contingent Valuation "cva"***. In the analysis of variance, not listed in Table 6.13, the variable ***Occupation "occ"*** contributed 25% of the variability explained by the model, or 12.6% of the variability in the dependent variable. The first three explanatory variables represent the factors of Knowledge, Landmarks and Unity respectively in the Model of Environmental Assessment and they explain 37.7% (75% of 50.3%) of the variability in the contingent valuations. The Model of Environmental Assessment met the criterion set by Green & Tunstall (1991b) that the environmental framework should explain 20%-40% of the variance in the contingent valuation.

6.6.4 Negative Signs on Regression Coefficients

In Table 6.13, the negative sign for ***Visit for Sustenance "vs"*** is consistent with the notion (ch.3.7) that the residents' need for material sustenance from the area would work against their support for the conservation of the area.

There is a negative coefficient for ***Historic Unity "hu"*** and a positive coefficient for ***Historic Disunity "hdu"*** which needs an explanation. More ***Historic Unity "hu"*** is likely to result in greater satisfaction with the environment. This satisfaction may be a disinclination to pay money for research that appears to be unnecessary, whereas ***Historic Disunity "hdu"*** is likely to be annoying and an influence to pay to have the matter fixed up, because there is more need and scope for an improvement. A perception of low unity may be an incentive to pay for research and protection to prevent any further deterioration in the unity of the historic environment. The size of a contingent valuation could therefore indicate the strength of concern for a perceived lack of unity in the historic environment. A similar situation occurs when people are willing to pay for pollution control.

A perverse interpretation is that unity is a negative factor in environmental assessment but this does not sit well with common knowledge or with the earlier conclusion that residents' opinion of the area in variable ***Like "lik"*** is significantly and positively correlated with variable ***Historic Unity "hu"***.

6.7 Conclusions

The responses in the household survey were similar to those in the second pilot survey. The residents in the household survey represented the age/sex structure in the adult population in Charters Towers, except where they over-represented women aged 40-50 and under-represented men aged 20-30.

6.7.1 Residents Opinion Of Central Commercial Area

Residents rated the central commercial area as slightly better than satisfactory. Residents visited the central commercial area mainly for material sustenance and very little for pleasure, yet their opinion of the area was statistically associated with the number of historic places they said looked or functioned well together (unity) and the number of historic places they thought were important (knowledge). These associations verified that the area had an historic value that was a public good.

The residents who went most often to the central commercial area also named the most historic buildings in their responses to questions about landmarks, unity and knowledge of buildings they considered important. This finding, to be expected, gave some validity to the data. The residents' number of important historic places did not reflect their household income.

6.7.2 Residents Willingness To Pay

Motivation to Protect and to Pay

Residents' willingness to pay for more knowledge and protection of historic buildings and the historic area was not

statistically correlated with their opinion of the area.

Slightly more than half of those who responded agreed with the proposal for a Historic Buildings Research Authority, a third thought they should not have to pay for research and protection and less than 14% were opposed to conservation of the area.

Respondents' reactions to an Authority were significantly correlated with their knowledge of historic places, historic landmarks and historic unity and their willingness to pay for research and protection. The correlations were consistent with the environmental and economic hypotheses in Chapter 6.1.1.

Amount

The sampled households were each willing to pay an average of $23.5 for five years for more substantive knowledge and improved protection of heritage places. Other contingent valuation surveys generally found people were willing to pay at least $50 per year towards the conservation of nature. The contingent valuation and the reaction to the Authority together indicated that residents had a pro-conservation attitude towards the central commercial area.

The amounts that residents were willing to pay for the three hypothetical conservation programs were not statistically different and so there was no greater preference for protection of the historic area than there was for protection of important historic places within the area. The survey showed the contingent valuation method can be used to obtain a public evaluation of the relative worth of alternative conservation programs.

6.7.3 Test of Model of Environmental Assessment

The Model explained the residents' opinion of the area, their willingness to pay for research and protection and their reaction to the Historic Buildings Research Authority (ch.6.4.3).

Opinion

The Model's factors of Unity and Knowledge were explanatory factors in the opinion of the area because the variables ***Historic Unity "hu"*** and ***Historic Places "hp"*** were significant explanatory variables for the variable ***Like "lik"*** in the categorical data analysis in Table 6.8, in the logit regression in Table 6.9, in the linear probability model regression in Table 6.10 and in the multiple least squares regression in Table 6.11.

The explanatory variable ***Historic Landmark "hl"***, representing the Model's factor of Location, was only statistically significant in the simple ordinary least squares regression of variable ***Like "lik"***.

The regression coefficients indicated that the Model's factors of Knowledge, Location and Unity had relative weights of 4:1:3 in the opinion survey.

The hypothesis that the factors of Knowledge, Location (landmarks) and Unity in the Model are independent is supported by the lack of a significant correlation between the variables ***Historic Landmark "hl"*** and ***Historic Unity "hu"***, and the lack of a significant correlation between the variables ***Historic Unity "hu"*** and ***Historic Places "hp"***. However, the variable ***Historic Landmark "hl"*** was strongly correlated with the variable ***Historic***

Places "hp". A future questionnaire should clarify that landmarks are visually prominent objects that do not have to be historically important and that important historic places need not be visually prominent.

Willingness to Pay

The contingent valuation survey showed the Model's three explanatory factors of Knowledge, Location and Unity are important because variables representing these factors had significant regression coefficients and they explained 37.7% of the variability in the contingent valuation, which is a good value in the literature. The household income explained a further 12.6%. When R-squared was adjusted for degrees of freedom, these four variables explained a total of 47.5% of the variability in the contingent valuations.

The regression coefficients indicated that the Model's factors of Knowledge, Location and Unity had relative weights of 6:5:4 in the contingent valuation survey.

Second Ordinary least Squares Regressions

The second regression models for the dependent variables ***Like "lik"***, in Table 6.11. and ***Contingent Valuation "cva"***, in Table 6.13, demonstrated that the significant explanatory variables in the first regressions were still significant when the non-significant explanatory variables were not employed to reduce the residual variability in the dependent variable. The second regressions were also able to access a few extra data records that had blank values for the insignificant variables.

6.7.4 Limitations In Household Survey

The responses to the survey questions were satisfactory but could be improved by spending more time with respondents to obtain answers to every question. 216 questionnaires were distributed and 139 were returned with answers but only 68 had every question answered. The contingent valuation question appeared to be the main reason that the questionnaires were not fully completed. There were 50 respondents who had no working adult in their household and this may be a reason that some residents were unwilling to answer the contingent valuation question. The three point graded score in Question 1, on which respondents were asked to mark their degree of liking or dislike of the area, was of limited success.

6.7.5 Opportunities for Further Testing

The survey method could be repeated in other settlements that have a built heritage area for two purposes : (1) to test whether the linear relationships continue to hold between the Model's factors and the residents' opinion of the area or their willingness to pay for research and protection of the area, and (2) to present alternative scenarios of conservation policy or alternative objectives for conservation to the public for evaluation and to elicit other heritage values. Further research could explore non-linear relationships between the factors in the Model.

The following Chapter 7 researches the administrative arrangements that are needed to conserve a heritage area after it has been assessed, with particular relevance in Queensland.

7. ADMINISTRATIVE LAW

7.1 Introduction

The fourth and last research question is :

What administrative arrangements are needed to conserve a heritage area after it has been assessed, with particular relevance in Queensland ?

7.1.1 Aims

To answer this question there are two aims :

(1) to identify the administrative arrangement that is needed for the conservation of a heritage area, to show there is no arrangement in Queensland to allow any level of government to conserve a heritage area and to propose what is needed ;

(2) to collate some principles from court decisions which can be used in the preparation and administration of a conservation plan for a heritage area.

7.1.2 Outline of Chapter 7

Chapter 7.2 explains the need for specific heritage legislation. Chapters 7.3 and 7.4 show the heritage legislation and environmental planning legislation in Queensland do not have the administrative arrangements to conserve heritage areas. In Chapter 7.5 the South Australian legislation is found to have the necessary arrangements. A comparison of the Queensland and South Australian legislation is in Chapter 7.6.

In Chapter 7.7, the decisions of courts on conservation and

planning matters are researched for principles that can be applied in the preparation and administration of a plan to conserve a heritage area. Some principles are used to show which economic effects of conservation (ch. 5) are relevant to the test in Section 38 of the Queensland Heritage Act 1992 of whether conservation is a 'prudent and feasible alternative to development' on a registered heritage site. Part of the research is in O'Sullivan (1996a).

7.1.3 Background to Heritage Legislation

The origin of heritage legislation and planning legislation in Australia is in British legislation where, according to Delafons (1994), heritage conservation and town planning were combined in legislation in 1909 after the first heritage legislation in the *Ancient Monuments Protection Act 1882* (UK). According to Delafons (1994):

> The Housing Town Planning, Etc., Act of 1909 first introduced the concept of Town Planning Schemes the precursors of today's development plans. The Fourth Schedule contained a list of matters to be included in such schemes and which were to be dealt with in more detail by General Provisions prescribed by the then Local Government Board. The fourth of these items was 'The preservation of objects of historical interest or natural beauty'. (p. 509).

He explained that the legislation was not used and "the legislation was weak and ineffective until the passing of the Planning Acts of 1944 and 1947 began to establish (but did not complete) the present system of what is now known as listed building control"(p. 509).

Queensland, like other Australian states, has separate heritage legislation and planning legislation. Boer (1991) reviewed the relationships between local government and the heritage law in New South Wales and found:

> This underlines the growing realization that heritage law is an integral part of environmental law. Attempts to separate heritage from the rest of the environmental debate only serves to marginalize and delegitimate the heritage.(p.8).
> unless local councils themselves acquire more direct power to impose interim and permanent conservation orders (rather than on the basis of possible delegation) there will continue to be a gap between the powers of the Heritage Council and the Minister, and the powers available at local level.(p.21).

Interpretation Of Queensland Legislation

Bridgman (1991) explained that amendments to the *Acts Interpretation Act 1954* (Qld) required that all Queensland acts be given a meaning through a purposive approach, and while :

> there are those who will argue that the purpose of the Act is superordinate to individual rights, and that common law doctrines may be overridden by mere implication rather than necessary implication. It is suggested here that the new Section 14A will not facilitate a construction permitting reversal of the onus of proof, or requiring self-incrimination, or otherwise overriding common law rights and presumptions by mere implication and construction to best achieve the purposes of the act.(p.336).

Bridgman's (1991) comment that an act cannot easily imply an overriding of common law has direct relevance to the interpretation of legislation for heritage conservation and land use planning because these acts may otherwise be construed to imply a power to carry out conservation for a purpose that is not specified in the acts.

7.2 Need For Legislation To Conserve Heritage Areas

Legislation for heritage conservation in Queensland, and other states, was passed to rectify the perceived mischief from the demolition of historic buildings. The need for heritage legislation is discussed below in Chapters 7.2.1 to 7.2.4.

Dendy, Forbes and Grant (1979) said the legal mechanism to enforce heritage conservation "should (1) bind successors in title, (2) have the facility to incorporate both positive and negative conditions, and (3) not require a dominant property"(p.9).

7.2.1 Common Law

It is possible to make a private legal agreement to restrict the development or alteration of land through covenants and easements. Rules in common law for the protection of private property rights have existed for centuries. In a conservation covenant, the benefit in the private legal agreement must be derived through a proprietory right in ownership of neighbouring land, or through the right to a profit from the land that is the subject of the covenant or easement, in order to meet common law principles (Bates, 1992,p.30). Bates (1992) remarked that the common law did not develop to protect the environment or the narrower part of the environment now known as heritage places.

According to Dendy *et al*. (1979), a covenant relating to the use of land which attaches to the land and binds successors in title "must be for the protection of land or an interest in land", have a dominant property over the servient property (see glossary) and :

> The covenant must be negative in substance. No covenant which requires positive action such as the expenditure of money or the doing of an act can ever run with the land.(p.2).

Consequently, agreements for conservation purposes cannot generally be made in a common law covenant because there is

usually no dominant land and positive obligations to maintain the site are necessary. However, under legislation in the American cities of Charleston and Galveston, buildings are sold with covenants preventing alteration of the exterior and there are easements for the preservation of properties or views, which "run with the land"(p.28) including "facade easements" and "scenic easements" (Ziegler & Kidney, 1980,pp.28,85).

Easements for conservation purposes have the disadvantage of requiring a servient and a dominant tenement except where legislation permits the creation of easements in gross. Some public utility authorities such as water, sewerage and electricity authorities have the statutory power to obtain easements in gross over land without the existence of a dominant tenement (Dendy *et al.*, 1979,p.3; Bates, 1992,p.31), and local governments can obtain easements for purposes related to their responsibilities, such as drainage, when they give planning approvals. When there is no statutory right to obtain an easement, the easement must be negotiated privately between the two property owners.

7.2.2 National Trust

The early legislation for heritage conservation in Australia was to establish the National Trust in the states. The first was in South Australia in 1955, then New South Wales in 1960 and Queensland in 1963.

In Western Australia, Tasmania and Victoria, the :

> National Trusts or other conservation bodies may be empowered by legislation to enter into covenants with private landowners to restrict the future use and development of land so as to preserve heritage features (Bates 1992,p.230).

Covenants that have been arranged without legislative backing between the owners of heritage properties and bodies such as the National Trust and local government suffer from the

lack of a proprietory interest and may be unenforceable against future owners (Dendy *et al*. 1979, p.4). There is a perception in the community that the National Trust listings amount to a protection of the listed property but it is clear there is no protection without statutory authority or a proprietory interest in the place.

7.2.3 Australian Government

The Federal Government passed the *Australian Heritage Commission Act 1975* (Cwlth) through which it created a Register of the National Estate (s.22) and a Commission to advise the Minister (s.6).

The Act requires federal ministers to take no action that may adversely affect a property on the Register of the National Estate unless there is no feasible or prudent alternative (s.30). The Act includes sites, areas, and regions, as well as buildings, in its definition of a place that can have heritage significance (s.3). The Federal Government does not however have direct control over environmental planning or land use in the Australian states, except on land which it owns. It does exercise control in some instances over natural heritage to uphold the international conservation agreements made under its external affairs power.

In the Act, neither the Minister nor the Commission has a collective property right to require that a place or built area be conserved.

7.2.4 State Legislation

In Australia, each state has statutory laws to protect its built heritage. The statutory laws have progressed through a widening field that started with the National Trust and its concern for old buildings and now includes native vegetation, relics below land and water and archaeological sites. Heritage conservation law is in

the mould of administrative law.

After the legislation to establish the National Trust, there were acts to establish government administration for heritage conservation. New South Wales was the first state with its *Heritage Act 1977*, followed by South Australia in 1978. Victoria had the *Historic Buildings Act 1981*. Queensland and Western Australia both introduced heritage legislation in 1990. Tasmania began a heritage bill in 1990 and it was completed in 1995.

The early heritage acts set up a register of places to be protected but were without a mechanism for negotiating with landowners. Some attempts were made to overcome this early deficiency by using covenants and easements, but there were common law problems (Dendy *et al.*, 1979, p.3; Bates, 1992, p.30; Rohde, 1993). The problems with common law covenants were overcome by statutory authorization, usually given to a minister, to enter into a heritage agreement with a landowner which bound present and future owners. The agreement must have benefits and obligations to both parties and it runs with the land so that any subsequent owner and occupier is also bound by the agreement.

7.2.5 Conclusion

It is not possible to conserve a heritage area in Queensland through covenants, easements or listings of heritage areas by the National Trust or the federal government.

Legislation is needed to achieve the aims sought in covenants and easements. These aims are the right to require a place to be kept and the authority to make agreements with owners for the conservation of heritage places. The legislation in Queensland is discussed next.

7.3 Queensland Heritage Legislation

Four acts were prepared in Queensland for conservation. The first act was the *Cultural Record (Landscapes Queensland and Queensland Estate) Act 1987* (Qld) which did not affect built heritage. The *Heritage Buildings Protection Act 1990* was a short term act with a list of protected buildings that was later incorporated in the *Queensland Heritage Act 1992*. The *Nature Conservation Act 1992* provides for the conservation of natural areas. The *Local Government (Planning & Environment) Act 1990* is a fifth act to incorporate an objective of conservation. These acts do not give a power to conserve a built heritage area.

7.3.1 Cultural Record (Landscapes Queensland and Queensland Estate) Act 1987

The long title of the Act is :

> An Act to provide for the preservation and management of all components of Landscapes Queensland and the Queensland Estate ; to foster dissemination of knowledge of Landscapes Queensland and the Queensland Estate ; to promote understanding of the historic continuum evidenced within Queensland and for related purposes

The provisions throughout the Act suggest it was directed towards archaeological and indigenous cultural material, but not built heritage areas. An officer of the Queensland Department of Environment and Heritage, who claims to have seen the register, stated (26/10/94) there were no buildings in the register.

The Governor in Council was given the power in Section 17 to declare a Designated Landscape Area by Order in Council if satisfied that the entry of people into the area should be prevented or regulated for the preservation of the area. Section 15 in the Act envisaged that a Designated Landscape Area may be used for cultural, development, education or tourist purposes. The owner had to give the consent required in Section 18 before

the area could be placed on the register. Section 20 required the Minister to keep a register of all Designated Landscape Areas.

Section 21 provided for Landscape Queensland Protectors whose function was to prevent entry into a Designated Landscape Area and Section 24 created an offence of trespass for any person in an Area without permission. Sections 22, 52 and 56(3) indicated that the significance of a Designated Landscape Area depended on the area containing a part of the Queensland Estate.

In regard to items of the Queensland Estate, the Act allowed the items to be removed in Sections 22 and 27 ; provided for ownership of items by a traditional group of indigenous people and for access in Section 32 ; for Crown ownership of items in Section 33 ; for ownership of burial remains of indigenous people in Section 34 ; for disposal in Section 37, acquisition by the Crown in Sections 38 and 47, for loan by the Crown in Section 39, to be searched for under warrant in Section 49 and for standards to be met in conserving, handling, identifying, recording and assessing items in Section 66. These sections in the Act indicated that items of the Queensland Estate are objects which have their origin in the culture of indigenous people in Queensland and that they are not buildings.

There are sections in the Act which indicate that Landscape Queensland was not meant to include standing historic buildings. The Minister was given the power in Section 27 to "cause to be performed surveys, excavations, examination or research upon Designated Landscape Areas or in respect of any part of Landscapes Queensland or the Queensland Estate" and to remove "any part of the Queensland Estate from its location in the field to the Queensland Museum". Section 28 allowed the Minister to issue a permit to an applicant to explore Landscapes Queensland.

Local government was given the function, in Section 45, to preserve Landscapes Queensland and the Queensland Estate. Local government could exercise the function only at the Minister's request and in accordance with :

> (a) any agreement made by the local government authority with the owner of the item of Landscapes Queensland or of the Queensland Estate for preservation of the item ;
> (b) any agreement made by the local government authority with the Minister for preservation of such item that is not inconsistent with an agreement referred to in paragraph (a) ; (s. 45(1)(a)).

There was no explicit provision for local government to create or administer a Designated Landscape Area.

Conclusion

A built heritage area within an urban area could not be a Designated Landscape Area because it would be impossible and undesirable to regulate or prevent entry to the area.

The Act refers to items of the Queensland Estate in a manner to imply these items are not expected to be buildings. Therefore a built heritage area or an historic building cannot be an item of the Queensland Estate. The Act refers to Landscapes Queensland in a manner that suggests the important parts are to be found at or below the surface of the ground.

The purpose of the Act is to protect cultural items typically of interest to anthropologists and archaeologists, particularly items of indigenous culture. The Act is not for the purpose of protecting standing historic buildings in urban areas.

7.3.2 Heritage Buildings Protection Act 1990

The Heritage Buildings Protection Act commenced in March 1990 and was set to expire in March 1992. Its function was to prohibit the demolition of buildings listed in the Schedule to the Act. The Crown was bound by the Act. There was no provision for the conservation of heritage areas or for heritage agreements.

The Act established a Heritage Committee appointed by the Minister. The Committee's consent was needed to demolish or alter a listed building. The only appeal route against that decision was to the Minister whose decision was final (s.9).

The Minister could issue a non-dealing order requiring that no dealing or only such dealing as may be specified in the order may occur for up to 10 years (s.18). The Registrar of Titles was required to register the non-dealing order or its revocation.

The Act was a novel and effective emergency measure pending the drafting of the Heritage Bill 1992. The Minister for Environment and Heritage said in the Queensland Parliament during the debate on the Heritage Bill :

> Over the last two years, very few applications for demolition have been made under the Heritage Buildings Protection Act. Only five have become the subject of an appeal to the Minister, which I have allowed (Hansard, 1992, p.4250).

7.3.3 Green Paper 1990

The Queensland Department of Environment and Heritage (1990) issued the *Green Paper - Proposals for a Heritage Act for Queensland - a discussion paper* which proposed :

> Similarly there should be provision for heritage areas to cover outstanding towns, settlements and suburbs. But such registrations would have to be defined with certainty.(p.9).
> Consideration needs to be given to placing more emphasis on heritage conservation areas and area listings than has been the case in the past in Australia. This of necessity means that there must be a close relationship with the overall planning system.(p.21).

Fisher (1991) said the draft Green Paper :

> adopted the AHC concept of a heritage place to define the scope of the Act but broadened this by adding the word precinct to site area and region, plus another clause to comprehend associated moveable items.(p.67).
> The drawback, however, was that the Green Paper did not reach the public in its original form.(p.68).

Fisher (1991) reported the draft Green Paper was submitted to Cabinet where it was amended before being presented to the

public in October, 1990.

Fogg (1991) in his review of the Green Paper referred also to the existence of the Cultural Record (Landscapes Queensland and Queensland Estate) Act 1987 which was introduced by the previous administration and claimed :

> There is, however, no intention in Queensland to cover landscapes which have been altered by human activity.(p.79).

The Green Paper also proposed a heritage agreement between the heritage authority and the owner of a heritage place.

7.3.4 Queensland Heritage Act 1992

The long title to the Act is :

> An Act to provide for the conservation of Queensland's cultural heritage.

The Act, in its Section 3, established a Heritage Council and a Heritage Register and it provided for control of development affecting heritage places and for heritage agreements. The Act required the Minister and the Heritage Council to retain the cultural heritage significance of places and "the greatest sustainable benefit to the community from these places and objects consistent with the preservation of their cultural heritage significance"(s.3(2)(b)). The Heritage Council is appointed by the Governor in Council (s.10) and its function is to advise the Minister and to administer the Register (s.9).

The Act defines the term "cultural heritage significance" :

> **"cultural heritage significance"** of a place or an object means its aesthetic, historic, scientific or social significance, or other special value, to the present community and future generations.(s.4).

The earlier Australian Heritage Commission Act 1975 has a similar set of those words in its Section 4 to describe the places in the national estate. Boer (1991) quotes a similar definition of heritage significance in an Environmental Regional Plan for the

Parramatta River in Sydney.

Rohde (1993) discussed the definition of "cultural heritage significance" in the Queensland Heritage Act 1992 :

> This seems an adaptation of the principle of inter-generational equity adopted by the Commonwealth, the six state governments, the Northern Territory Government and the Australian Local Government Association in the Intergovernmental Agreement On The Environment which provides :
>
> > 'the present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations'.(p.348).

The principle is consistent with the *bequest benefit* which is part of the Non-use Preservation Benefit, the main effect of conservation that was identified in Chapter 5.3.2.

The Australian Heritage Commission Act 1975 in its Section 3 defines a "place" to include a site, area or region and a building or a group of buildings. However, the Queensland Heritage Act 1992 has a more restricted definition of "place" to mean :

> a defined or readily identifiable area of land (which may be comprised in separate titles and in different ownership), and includes - (a) a building and such of its immediate surrounds as may be required for its conservation ; (b) a natural feature of historical significance and such of its immediate surrounds as may be required for its conservation ; (s.4).

in which a building or a feature is expressed as a singular noun and there is no reference to a group of buildings.

Rohde (1993) reasoned that the Act contemplated a built environment because it defined an object to mean :

> ' an object or group of objects and includes an object or group of objects that has become attached to, or merged with, land'. The Act therefore contemplates a built environment concerned not only with external and internal aspects of the building structure itself and certain fixtures, but also certain chattels.(p.347).

Rohde (1993,p.353) in her end-notes says a "Built environment hereinafter means the built environment as it is contemplated by the Act". The Act does not use the words "built environment" but it does refer to "objects in a place" in its Section 56, and so

the conclusion can be made that Rohde (1993) is referring to the built environment of a single building, its curtilage.

In the second reading of the Heritage Bill in the Queensland Parliament on 17 March 1992, a member of Parliament, and member of the National Trust, asked the Minister for Environment and Heritage who was in charge of the Bill :

> Under the definition of "place", does the Minister envisage places including precincts and streetscapes, areas that could include open space ? Does he envisage that as a total precinct or would it be excluded to stand-alone buildings and adjoining buildings ? Does the Minister see it as a total streetscape such as in Petrie Terrace or Red Hill area ? (Hansard, 1992, p.4238).

There is no record in Hansard of a reply from the Minister.

Protected Area

The definition of a "protected area" in Section 4 of the Queensland Heritage Act 1992 refers to Part 7 of the Act where there are provisions to protect cultural relics under water (s.44) and areas of archaeological interest (s.50) which may be declared by the Governor in Council, not the Heritage Council. Part 7 protects non-indigenous cultural relics and complements the administrative arrangements in the Cultural Record (Landscapes Queensland and Queensland Estate) Act 1987 which protect indigenous cultural relics. There is no reference in Part 7 to built heritage.

Heritage Register

The Heritage Register is a record of places, heritage agreements, protected areas, orders or permits (s.20). The Heritage Council can enter a place permanently on the Register (s.30) but it is the Minister who must notify the Registrar of Titles of an entry in, or removal from, the Register (s.31).

In Section 23(1)(a)-(h) there are eight criteria for the entry of a place in the Register which refer to the evolution or pattern of

Queensland's history, rarity, understanding history, class of cultural places, aesthetic characteristics, achievement and associations. These criteria are the same, in substance, as the Australian Heritage Commission's criteria A4 to H which were listed in the thesis' Chapter 2.2.2.1 and used there to derive some Purpose Values and Quality Values in Tables 2.1 and 2.2 respectively. The last part of Section 23 of the Queensland Heritage Act 1992 qualifies the use of the criteria :

> (3) A place does not satisfy the criteria for entry in the Heritage Register if there is no prospect of the cultural heritage significance of the place being conserved.(s.23(3)).

During the second reading of the Heritage Bill the Minister explained that sub-Section (3) was inserted for an administrative reason and he instanced a hypothetical situation of a heritage building on the edge of an eroding seafront for which there was no prospect of conservation. He said a listing of a building in that situation would not be good or efficient public administration. He went on to say that he suspected the provisions in Section 38 (prudent and feasible alternatives, and safety, health and economic considerations) will be referred to in the interpretation of Section 23 :

> even though the Government is not yet sure of exactly what will be taken into account when the question is asked by the committee or by the Planning and Environment Court : Is there any prospect of the cultural heritage significance of this place being conserved ? There is a difficulty there, but I think that is one for the lawyers to sort out to a large extent, because the Government has received legal advice both ways. (Hansard, 1992,p.4246).

Delegated Powers To Local Government

The Heritage Council may delegate its powers, except the powers in relation to the Heritage Register, to a member of the Heritage Council or to a committee established by the Heritage Council (ss.15, 16). The committee need not include a member

of the Heritage Council.

The Heritage Council has the power to approve or to refuse applications for development on registered places (ss.34, 35) and local government may decide the application if it has been delegated the power by the Heritage Council (s.34(2)). The powers of the Minister and the Heritage Council therefore override the planning powers of local government in respect of applications for development on registered heritage places.

A dissatisfied applicant for development can apply to the Heritage Council for a review of the decision and may subsequently appeal to the Planning and Environment Court (s.36). The Act did not give objectors to the application a right to appeal to a court.

The Queensland Heritage Act 1992 does not explicitly remove the requirement in the Local Government (Planning & Environment) Act 1990 for every application to local government to be advertised to the public or remove the right that third party objectors have, under planning legislation, to appeal to the Planning and Environment Court. Applications for development on registered sites may also require an application to be made under the Local Government (Planning & Environment) Act 1990 and therefore cause a public notice under both acts to be given. To be consistent with both acts, appeals from third party objectors under planning legislation can be expected to be limited to planning grounds and not include heritage grounds.

Another conclusion is that the owners of registered heritage sites have two avenues of appeal to the Planning and Environment Court against a decision of local government in respect of a registered heritage site, once through the Local Government (Planning & Environment) Act 1990 and again

through the Queensland Heritage Act 1992.

These interpretations are consistent with the contention that local government planning powers do not include the conservation of heritage places.

Development on a Heritage Place

In Sections 35 and 37 of the Queensland Heritage Act 1992, development that will reduce the cultural heritage significance of a place may be approved only if there is "no prudent and feasible alternative to carrying out the development". This phrase is also in the Australian Heritage Commission Act 1975.

During the second reading in Parliament of the Heritage Bill the Minister explained the origin of the phrase :

> The term "no prudent and feasible alternative" originally came into the Endangered Species Act in the USA in the mid-1970's when that country had a very tight legislative base.
> What it means is up for debate. We have defined it by clause 38, which covers a number of points to which the court must have regard, including safety, health, economic considerations and any other considerations.
> I am happy with it, because what it says is that we protect our heritage unless nothing else can be done. (Hansard, 1992, p. 4255).

The Act indicates in Section 38 the matters to be taken into account in the assessment of a prudent and feasible alternative, which include an economic consideration :

> 38. In deciding whether there is a prudent and feasible alternative to development that would have the effect of destroying or substantially reducing the cultural heritage significance of a registered place, the Council, local authority or Court must have regard to -
> (a) safety, health and economic considerations ; and
> (b) any other considerations that may be relevant. (s. 38).

The Minister, when introducing clause 38 in the Heritage Bill, refuted a suggestion that a lack of funds to restore a building would be taken into account when it is proposed to take a building off the register and said :

> No. I see 'economic' in the clause and link it to 'prudent and feasible alternative'. (Hansard, 1992, p. 4259).

but the Minister then went on to apparently contradict his stance that lack of funds would not be part of the 'economic' test :

> This provision is to protect the small person from massive debts and massive obligations which are totally unreasonable.(Hansard, 1992, p.4259).

Heritage Agreements

The Minister may enter into a heritage agreement with the owner of a registered place (s.39(1)) for its conservation. There is a similar arrangement in the Nature Conservation Act 1992.

Rohde (1993) reviewed the provisions for heritage agreements in relation to common law obstacles and claimed :

> conservation and preservation of the built environment may only be achieved if, and only if, a Heritage Agreement seeks to impose both positive and negative obligations upon the owner of the historic building.(p.344).

Rohde (1993) said a heritage agreement is similar to a restrictive covenant, and given that "the purpose of a Heritage Agreement cannot discount the overall object or purpose of the Act"(p.348), "the relevant common law doctrine which precludes enforcement is consequently abrogated"(p.349).

The heritage agreement attaches to the land, is binding on the owner, and in so far as its use, is binding on occupiers (ss.39(2), 39(4)). A heritage agreement may be varied or terminated by agreement between the Minister and the owner (s.39(3)). A heritage agreement may restrict the use of the registered place, specify or restrict work to be carried out ; provide that the place be available for public inspection ; provide for financial, technical, or professional assistance to the owner ; provide for a review of the valuation of the place or exempt specified development from the requirement to obtain approval (s.40(2)). A local government may be party to an agreement (s.40(3)) but there is no provision for a local government in a

variation of the agreement.

Apart from a heritage agreement there appears to be nothing in the Act or the *Queensland Heritage Regulation 1992* to compel an owner to look after a heritage property. Hart (1992) claimed :

> although Queensland may build up a substantial Heritage Register, there is nothing to stop owners of registered properties simply allowing them to fall into a state of ruin.(p.371).

The Minister for Environment and Heritage said of clause 40 during the second reading of the Heritage Bill :

> As to the first point about whether or not people could be forced to undertake certain works - no they could not.(Hansard, 1992,p.4259).

Unauthorised Demolition

The Queensland Heritage Act 1992 (ss.33, 59) places a maximum penalty of approximately $1 million for unauthorised development work, including demolition. The Act provides for the Court to order the offender to make good any damage (s.65).

Gifford (1989) discussed an interpretation of provisions in the *Town and Country Planning Act 1971* (England) in R. v. Leomister District Council ex parte Antique Country Building Ltd. (1987) 56 P & CR 240 and came to the conclusion :

> that an enforcement order requiring *restoration* of an historic building or a building of architectural importance can be served and enforced notwithstanding that the building has been demolished.
> The essential basis of the *Leomister* decision was that the wooden parts of the demolished building were still in existence.(p.129).

and he quoted from the decision in the case :

> I have said that where the components of a building are extant, then restoration is possible.(p.129).

7.3.5 Interpretation of Queensland Heritage Act

Three appeals, McVicker and McVicker v. Queensland Heritage Council P&E No. 6 of 1993, McVicker and McVicker v. Queensland Heritage Council P&E No. 19 of 1993, and McVicker and McVicker v. Minister for Environment and

Heritage and the Queensland Heritage Council P&E No. 16 of 1993 in the Queensland Planning and Environment Court, concerned the attempted removal of an old house by McVicker and McVicker from Boonah Shire to Albert Shire and the Heritage Council's subsequent actions. The Court's (Row D.C.J) decision, reported in the State Reporting Bureau - Transcript Of Proceedings (P&E 93/024), was:

> I am satisfied that the procedures undertaken under the Heritage Act are not within the phrase 'use of land' as contained in Section 2.24(3) of the Planning and Environment Act.(pp.18-19).

These sections set out the jurisdiction of the Planning and Environment Court to give declarations. The Court dismissed (p.19) the appellants' applications (pp.16-17) for declarations concerning a Stop Order issued by the Heritage Council, the lawful listing of the place on the Heritage Register and the question that the place does not satisfy the criteria for entry in the Register. The Court apparently considered it was unable to review some of those matters which can be referred to it under the provisions in the Queensland Heritage Act.

Judicial Review

Where there are no formal appeal rights in an administrative statute to have administrative decisions reviewed, there may be an opportunity to have the decision judicially reviewed.

A group of objectors in an incorporated association in Townsville, the Friends of Castle Hill, applied for a review under the *Judicial Review Act 1991* (Qld) of a decision of the Queensland Heritage Council that approved the development of 25 residential units on a listed heritage place in Townsville known as Castle Hill. The Queensland Supreme Court in Friends of Castle Hill Association Inc. v Queensland Heritage Council & Ors, No 625 of 1993 Dowsett J. State Reporting Bureau Transcript of

Proceedings, gave the following reasons to dismiss the Association's application for a review :

> HIS HONOUR: The most difficult hurdle for the applicant in this regard appears to be the decision of the High Court in Australian Conservation Foundation Incorporated v. The Commonwealth of Australia and Others (1978-1980) 146 CLR 493 where the Court considered in some detail the question of interest in proceedings brought to enforce an alleged statutory obligation. At first instance Aickin J said at page 504:
> "There are however a number of cases in which it has been said that the principle involved is that the plaintiff must show that he has a 'real interest' or a 'substantial interest' in the action".
> On appeal, the matter was dealt with in a rather more focused way at pages 525 and 526 where Gibbs J, as he then was, said:
> "In the absence of clear words it is impossible to impute to the Parliament an intention to confer on any private citizen the right to enforce the observance of the proper procedures of administration in the conduct of governmental activities over so wide an area, and there is no hint in the provisions to which I have referred of any such intention".
> Then at page 530 :
> "I would not deny that a person might have a special interest in the preservation of a particular environment.
> However, an interest, for present purposes, does not mean a mere intellectual or emotional concern. A person is not interested within the meaning of the rule, unless he is likely to gain some advantage, other than the satisfaction of righting a wrong, upholding a principle or winning a contest, if his action succeeds or to suffer some disadvantage, other than a sense of grievance or debt for costs, if his action fails. A belief, however strongly felt, that the law generally, or a particular law, should be observed, or that conduct of a particular kind should be prevented, does not suffice to give its possessor *locus standi*.
> A natural person does not acquire standing simply by reason of the fact that he holds certain beliefs and wishes to translate them into action, and a body corporate formed to advance the same beliefs is in no stronger position.
> A plaintiff has no standing to bring an action to prevent the violation of a public right if he has no interest in the subject matter beyond that of any other member of the public; if no private right of his is interfered with he has standing to sue only if he has a special interest in the subject matter of the action".

In a comment on Queensland's heritage laws which questioned whether anything had changed, Stanfield (1993) explained the rules applying to anyone seeking a judicial review and how they can work against those seeking to uphold what they perceive as the public interest :

> It is well established law that when a party seeks an interlocutory

> injunction, an undertaking as to damages is usually ordered against the party seeking the injunction.
> The reason for this is that the Court cannot be absolutely certain that the plaintiff will succeed at the trial in establishing a legal right to restrain the defendant. If the plaintiff fails and the defendant thereby suffers a loss, the plaintiff should rightly compensate the defendant for that loss.
> This rule may not be appropriate, however, where a party is seeking to restrain a breach of public law, or damage, to the public interest.(p.293).

There is a similar problem of standing in appeals against environmental decisions in New South Wales according to Lipman (1991):

> Obsolete standing provisions continue to act as a barrier to effective participation, and opportunities for public contributions in current legislation are thin on the ground.(p.x).

7.3.6 Summary

The Cultural Record (Landscapes Queensland and Queensland Estate) Act 1987 was not meant to apply to buildings.

During the public consultation process leading up to the Queensland Heritage Bill 1992, the proposal to have precincts and heritage areas in the Bill was dropped.

In the Queensland Heritage Act 1992, the collective property right in heritage places, but not heritage areas, is held by the Minister and the Heritage Council. The term "place" in the Act does not include a group of buildings in a heritage area. The criteria in the Act for the entry of a building in the register are very similar to those used by the Australian Heritage Commission and consequently consistent with the Purpose Values in Table 2.1. The intentions in the Act are also consistent with the concept of the Non-use Preservation Benefit as an effect of conservation.

The Queensland Heritage Act does not provide the local governments in Queensland with :

(1) the power to make environmental plans or local heritage

registers to conserve heritage areas or places, or

(2) the power to make a heritage agreement with the owners of a site of local heritage significance, where the site is not on the State's Heritage Register.

In the Queensland Heritage Act 1992, there is no provision for objectors or other third party interests to initiate a review of a development decision made by the Heritage Council or a local government having a delegated authority. It is likely that a local government acting with a delegated responsibility from the Heritage Council is not dealing with land use (McVickers 1993 case) and its decision in regard to delegated heritage powers is not subject to a review by the Planning & Environment Court.

The conclusion from the research is that the Queensland Heritage Act 1992 does not take into account the environment or the people surrounding a registered place because it deals only with individual places, the legislation over-rides local government planning and local government need not be consulted, there are no third party appeal rights, heritage agreements are private matters between the minister and the owner and possibly local government and finally, residents do not have the necessary legal standing to appeal to a court of judicial review against a decision of the Heritage Council.

7.4 Queensland Planning Legislation

In Queensland, the *City of Brisbane Town Planning Act 1964 (Qld)* and the Local Government Act 1936 respectively provided the statutory framework for planning in Brisbane and the rest of the State, until both were repealed and replaced by the Local Government (Planning and Environment) Act 1990.

7.4.1 City of Brisbane Town Plan

The town plan for Brisbane was amended in 1989 to include a new Section 22 in which the City Council intended to negotiate special conditions for future development on heritage sites in order to retain the heritage buildings.

The amendments included five heritage areas of open space in the central city area, but no built areas, a list of heritage buildings and penalty provisions to reduce the amount of development allowed if it was facilitated by demolition, alteration or modification of a listed heritage building.

The plan states in Section 22.10 that the penalty provisions:

> shall not apply where the demolition, alteration or modification is with the consent of the Council.

Council's town planning consent is required by Section 22.5 for a proposed works or other development at a listed heritage building.

The amendments to the town plan in 1989 were not aimed at conserving built heritage areas and they did not prevent the demolition of heritage buildings. That task was taken up in the later Queensland Heritage Act 1992, but only in respect of places of state significance. The amendments allowed for development behind the facade of a heritage building (Section 22.15).

An appeal was made in Queensland Club v. The Valuer General [1991] Queensland Land Court AV90-174 against the

valuation of a property on a heritage list in the Brisbane Town Plan. The Court's decision at page 10 was :

> I find that in arriving at an unimproved value of the subject land, regard must be had to all of the relevant provisions of the Town Plan including the provisions of Section 22. While the intent of Section 22 may well be to conserve buildings which become part of the Heritage of the City of Brisbane, Section 22(8) places a restriction on how a person may use the land upon which the historic building is erected and the restriction runs with the land whether the historic building remains or not.
> The Section restricts the use of the land should the heritage building be demolished and while this restriction remains, regard must be had to it in arriving at an unimproved value.

This decision explains the process in which an Opportunity Cost can arise as an effect of conservation (s.5.3.5).

7.4.2 Local Government (Planning and Environment) Act 1990

There are no specific provisions in the Local Government (Planning and Environment) Act to give local government the power to exercise control in heritage conservation. Section 1.4 in the Act defines the term town planning :

> "town planning" includes all matters necessary or expedient for securing the improvement, orderly development, healthfulness, amenity, embellishment, convenience, conservation or commercial advancement of an Area or a part of an Area.

The previous town planning legislation in Section 33 of the *Local Government Act 1936* (Qld) had the same definition of "town planning" without the word "conservation". Before the Local Government (Planning and Environment) Act 1990, the Proserpine Shire Council adopted a Strategic Plan in 1982 which prohibited the removal of trees from above a specified ground elevation or from a hillside that had more than a specified slope. However, no local government planning scheme was found (1993) which claimed a power to prevent the demolition or alteration of heritage buildings.

In the Local Government (Planning and Environment) Act

1990 there is a definition of the term environment :

> "environment" includes -
> (a) ecosystems and their constituent parts including people and communities ;
> (b) all natural and physical resources ;
> (c) those qualities and characteristics of locations, places and areas, however large or small, which contribute to their biological diversity and integrity, intrinsic or attributed scientific value or interest, amenity, harmony, and sense of community ; and
> (d) the social, economic, aesthetic and cultural conditions which affect the matters referred to in paragraphs (a), (b) and (c) or which are affected by those matters ;(s.1.4).

It is significant that the words "history" or "heritage" do not appear in the definition of environment because the words "aesthetic, scientific, social, cultural, community" in the definition later appeared with the words "historic, heritage" in Section 4 of the Queensland Heritage Act 1992.

Some meaning must be given to the word "conservation" in the Local Government (Planning and Environment) Act 1990 and it is likely that the conservation power is meant to implement conservation objectives that do not include the enforced keeping of heritage buildings. These objectives could be to "keep new buildings similar to old" thereby conserving the architectural features that are a characteristic of old buildings rather than directly forcing the keeping of the old buildings.

It is likely that the word "conservation" was inserted in the 1990 Act to 'catch up' with a practice in some town plans, such as in those reviewed in Chapter 2.5, which defined historic conservation areas and required new buildings in historic areas to take on favoured old architectural characteristics. The inclusion of the word conservation in the Local Government (Planning & Environment) Act 1990 did not give local government a power to regulate for the purpose of keeping built heritage.

This conclusion is consistent with the decision by the

Planning and Environment Court in the McVickers 1993 case which found that court did not have the power to consider procedural matters associated with the Heritage Register because the Register did not have anything to do with land use. Consequently, the preparation of a heritage list is not part of the purpose of conservation within the definition of town planning in Queensland since this Court hears appeals under the Queensland planning legislation.

7.4.3 Interpretation of Local Government Planning Powers

The decisions of local government councils are sometimes questioned in court on the point that the council did not have the necessary statutory power to make the decision. From this questioning some principles evolved which, in the absence of a statutory authority, indicate that local government in Queensland does not have the power to carry out heritage conservation.

In Allen Commercial Constructions v. North Sydney M.C. (1970) 123 Commonwealth Law Reports (Aust.) the High Court said "In accordance with a well recognized rule" the particular planning ordinance in question in that case :

> ought to be understood - - - not as giving an unlimited discretion as to the conditions which may be imposed, but as conferring a power to impose conditions which are reasonably capable of being regarded as related to the purpose for which the function of the authority is being exercised, as ascertained from a consideration of the scheme and of the Act under which it is made.(p.499).

The general planning power of local government councils was described in Sabdoran P/L v. Hervey Bay Town Council (1983) :

> it is from the Act and from any relevant provisions of the Ordinance and not from some preconceived general notion of what constitutes planning, that the scope of planning policy is to be ascertained.(p.179).

The Queensland Full Court in Cardwell S.C. v. King Ranch, Appeal No.12 of 1983, not reported, said a condition is reasonably required if it is within power (a question of law) and

fair and reasonable (a question of fact). The distinction was drawn by the High Court between relevance and reasonableness in Cardwell S.C. v. King Ranch (1984) 58 Australian Law Journal Reports 386 at 388.

These decisions indicate that the local government must be given the power through statute before it can carry out heritage conservation, and secondly that the power cannot be assumed and written into a town planning scheme if it is not in a statute.

7.4.4 Queensland Government Planning Discussion Papers

The guidelines and intentions in the following two departmental publications also indicate there is no legislation in Queensland to conserve heritage areas.

The Queensland Department of Housing and Local Government (1991) publication Planning Provisions For Heritage Conservation was "intended as an introduction to planning techniques for heritage conservation" and its principal aim was "to assist with the conservation of heritage places" :

> The term 'heritage area' refers to those areas which comprise a group of heritage places.(p.6).

but a covering letter with the publication said :

> the publication cannot address an issue raised about the interaction of State heritage legislation and town planning as they have not been fully resolved.

The basic techniques proposed in the publication are (p.8) a statement of aims and purpose, identification of places of heritage significance, and controls over changes to places of significance. The controls suggested in the publication (pp.24-30) concern facades, paint, land uses near a heritage place as they affect the setting, controls over siting, height and sight lines in a view of or to a feature, and specific zoning for heritage places.

The publication recommends (p.32) that an application

affecting a heritage place include the history of the place and its significance, a statement of the significance of the heritage place and a description of the new facilities and their likely impact.

The publication did not suggest ways to assess heritage areas or provisions to protect existing heritage buildings or heritage areas.

The second publication was New Planning and Development Legislation - A Discussion Paper from the Queensland Department of Housing Local Government and Planning in November 1993. It has the following objectives for proposed planning legislation which will replace the Local Government (Planning and Environment) Act 1990 :

> to provide for the economic, environmentally and socially responsible use and development of land ;
> to provide for the conservation and enhancement of areas and buildings which have special scientific, aesthetic, architectural, historic or cultural significance. (p. 21).

The objectives for the economic use and development of land and the conservation of historic areas and buildings significance were not previously set for local government in Queensland. The implication is that these objectives were, until at least early 1995, outside the powers of local government. The objective for the responsible development of land could complement, or alternatively conflict with, the requirement in the Queensland Heritage Act 1992 to have regard to economic considerations in prudent and feasible alternatives to development.

The discussion paper indicates that the Queensland government intends to give local government the power to carry out the conservation of heritage areas. The discussion paper reinforces the relevance of this thesis and the need for research generally for the conservation of heritage buildings and areas.

7.4.5 Conclusion

The town plan for Brisbane does not have an intention to conserve heritage areas. The provisions in the town plan which restrict development on listed heritage sites had the effect of creating an opportunity cost (see ch.5.3.5) for owners.

While the Queensland Local Government (Planning & Environment) Act 1990 defines town planning to include the conservation of part of the local government area this power does not include conservation of an area for the purpose of cultural heritage. The likely purpose is to allow local government to conserve the architectural features that are a characteristic of old buildings rather than directly forcing the keeping of the old buildings. The words in the Act and the decision in the McVickers case support this conclusion. The functions of environmental planning authorities must be found in legislation and not in a town planning scheme or a by-law. Queensland local government did not have in early 1995 a power to declare a collective property right over any heritage place or property in a heritage area, or to require a heritage place be kept in a particular condition or even kept at all.

In the following Chapter 7.5, the South Australian legislation is found to have the necessary heritage legislation and environmental planning legislation to conserve heritage areas. A comparison of the Queensland and South Australian legislation is in Chapter 7.6.

7.5 South Australia - Heritage and Planning Legislation

In South Australia, the state government and local government have worked together since 1978 to conserve heritage places and areas through the *South Australian Heritage Act 1978* and the *Planning and Development Act 1966* (SA), and more recently through the *Heritage Act 1993* (SA) and the *Development Act 1993* (SA). The legislation indicates the administrative arrangements that could be made in Queensland to conserve heritage areas.

7.5.1 South Australia's Heritage Act 1993

The explanatory notes (p.1) with the *Heritage Bill 1992* (SA) said the proposed Heritage Act would be subordinate to the much broader proposed Development Act and proposed Environment Protection Act and a separate Heritage Act was needed to deal with some specific aspects of managing the historic environment.

In the Heritage Act 1993, the Register (s.13) has attached to it an inventory (s.14) of those places that are designated as places of local heritage value (s.14) in any Development Plan, those State heritage areas in development plans and heritage agreements and places of historical interest kept under the law of the Commonwealth. The Inventory does not form part of the Register (s.14). The Minister can direct the Heritage Authority to remove or to not confirm an entry in the Register (s.18).

The Authority may remove an entry from the Register if that place is designated in a Development Plan as a place of local heritage value (s.24). A place has 'heritage value' for the purpose of the Act if it complies with one or more of the criteria (a) to (g) in Section 16 of the Act. These criteria are also used in Section 23 in the Queensland Heritage Act 1992 to decide whether a place

should be entered in the heritage register. The criteria in both Acts can be identified with the criteria A4 to H from the Australian Heritage Commission (1990) and they are therefore consistent with the Purpose Values in Table 2.1.

7.5.2 South Australian Development Act 1993

The Development Act 1993 applies to the whole of the State (ss.7(1), 23(2)), thereby bringing Adelaide and other parts of the State under one legislative arrangement in respect of land development.

The Act defines development as it relates to a State heritage place and a local heritage place to include demolition, removal, conversion, alteration or painting (s.4). A local heritage place is so designated in a Development Plan. A State heritage place is a place in the State Heritage Register or in a State Heritage Area in a Development Plan (s.4).

In Section 23(3) of the Act a Development Plan may :

> include - (a) planning or development objectives or principles relating to - - -
> (iv) the management or conservation of land, buildings, heritage places and heritage areas ; - - -
> (vi) economic issues ;

The Act did not point to the substance of any "planning or development objectives" or reasons for conserving heritage areas as it did for the assessment of local heritage places in Section 23(4) :

> A Development Plan may designate a place as a place of local heritage value if -
> (a) it displays historical, economic or social themes that are of importance to the local area ; or
> (b) it represents customs or ways of life that are characteristic of the local area ;
> (c) it has played an important part in the lives of local residents ; or
> (d) it displays aesthetic merit, design characteristics or construction techniques of significance to the local area ; or
> (e) it is associated with a notable local personality or event ; or
> (f) it is a notable landmark in the area.

The criteria to assess a place of local heritage value in the South Australian Development Act (s.23(4)) are consistent with the Purpose Values and Quality Values in Tables 2.1 and 2.2, the concept of Architectural Aesthetic Significance of a Place, the Method of Historic Theme and the Method of National Estate (ch.2.6.2, Table 2.9).

In the Development Act, the owner of a proposed local heritage place must be given notice of the proposal (ss.25, 26). The owner can object to the proposal (ss.25, 26). The Plan becomes law if it is approved by the Governor in Council and subsequently not altered by the Environment Resources and Development Committee of Parliament within 28 days (s.27). The Minister can add a State heritage place to a Development Plan or remove it (s.29).

The Minister or a local government council can enter into an agreement with landowners for the management, preservation or conservation of land and the agreement can be noted on the certificate of title (s.57). Once the agreement is noted on the title, it runs with the land. The agreement can provide, with council's consent, for the transfer of development rights and the remission of rates and land taxes.

Examples of Heritage Agreements in South Australia

The heritage agreement is annexed to the deed for registration in the South Australian Land Titles Office. The deed names the parties, recites the facts relating to the land and the history leading to the agreement. The deed contains interpretation clauses and the obligations of the parties to put the agreement into effect. The agreement itself contains the matters of substance, which may include a management plan and procedural arrangements between the parties for the conservation of the

place. Two urban heritage agreements from South Australia were sighted :

(1) An agreement was made between the Minister (Trustee Of The State Heritage) and the owner of an old estate who had applied to the local government for approval to subdivide the land. The main house, coach house and stables were on the Heritage Register. The estate had a garden dating back to 1880 with rhododendrons that were considered important. The owner and the Trustee entered into an agreement for the preservation of the garden, the retention of trees, the positioning of subdivision boundaries and for the construction and appearance of driveways and houses. The agreement came into force when planning approval was given by the local government and the survey plan was accepted by the Registrar General.

(2) The second agreement was made between the Adelaide City Council, the owners of a conservation site and a developer. The agreement provided for a conservation plan and the transfer of 180 square metres of permitted floor area from the conservation site to another site owned by the developer. The transfer of floor area took effect when the agreement was registered as a memorial on the certificate of title.

7.6 Comparison of Queensland & South Australian Legislation

7.6.1 Heritage Register

Both the Queensland Heritage Act 1992 and the South Australian Heritage Act 1993 set up a heritage council or authority to advise the Minister on heritage matters and they provide administrative procedures and authority to protect heritage places listed in a register ; they allow any person to make a submission on a proposed listing in the Register ; only the owner may subsequently appeal to a court against the decision to enter or to not enter the place in the Register ; and the two acts use identical criteria to assess places of state significance.

Attached to the South Australian Register is an inventory, not subject to the Act's provisions, of state heritage areas, places of local heritage value and places of historical interest to the local government. The South Australian Heritage Act therefore takes an interest in heritage that is relevant to the three levels of government whereas the Queensland Heritage Act is confined to individual buildings of state significance.

7.6.2 Assessment Criteria

The term 'heritage value' in Section 16 of the South Australian Heritage Act is defined in terms of criteria that are consistent with the criteria used in Queensland's Heritage Act, with the criteria used by the Australian Heritage Commission (1990), with the Purpose Values and Quality Values in Tables 2.1 and 2.2 and with the concepts to assess places in Table 2.9.

South Australia's Development Act 1993 has criteria to assess a local heritage place (s.23(4)). Neither the Queensland heritage legislation nor the planning legislation has criteria to assess places of local significance.

7.6.3 Local Government & Conservation of Heritage Areas

The legislation in the two states differ in regard to the conservation of heritage areas and the responsibility given to local government for conservation. South Australia's Development Act 1993 provides for the minister to declare state heritage areas in development plans, for local government to prepare development plans to conserve local heritage places and heritage areas and for both the minister and local government to enter into agreements with landowners.

The provisions in Section 23 of the South Australian Development Act would, if they were included in Queensland legislation, allow the local government in Charters Towers to conserve the central commercial area and the 31 significant buildings described in the assessment in Chapter 4.4.4 of the thesis. The planning objective, the term in Section 23(3) of the South Australian Development Act, would be the conservation of the area to signify the city's tradition of excellent achievements in mining etc., (ch.4.4.5.3).

The Queensland government did not include the conservation of heritage areas or buildings of local heritage significance in the Queensland Heritage Act 1992 or Local Government (Planning & Environment) Act 1990.

While the opening objective of the draft *Planning, Environment and Development Assessment Bill* 1995 (Qld) did not clearly include the protection of a built heritage area, later clauses provide the means when preparing a town planning scheme for local government to protect the significant buildings in a built heritage area from alteration or demolition (O'Sullivan 1996a). The Bill is moving the protection and conservation of built heritage areas towards the South Australian model.

7.7 Administrative Principles in Conservation

The aim was to research the administrative principles that have been used in court decisions and which could be adopted in a conservation policy to (1) control building alteration or development, (2) list heritage buildings and (3) apply the economic effects of conservation (ch. 5) in the test of whether conservation is a prudent and feasible alternative to development in Section 38 of the Queensland Heritage Act.

7.7.1 Control Building Alteration or Development

The Burra Charter is often proposed as the guideline for the conservation of built heritage in Australia. Hunt (1991) makes the point :

> The Burra Charter is not 'law'. It is merely a guideline of principles and definitions regarding conservation of places of cultural significance. It does not bind anyone.(p.310).

Planning Intentions

The importance of clear principles and strong language in planning statutes and schemes was noted by the Tribunal in Borthwick v. City of Adelaide [1985] where a set of intentions for a heritage area directed the planning authority :

> to have regard to and, secondly, to recognise the significance of, and the need to preserve and moreover enhance such an item.
> Such matters are to be given considerable weight.(p.454).

The Tribunal referred to the strictures placed by planning on architectural design :

> design does not emerge from the planning principles. It arises from the experience, sensitivity, and creativity of the designer. But what is conceived by the designer, no matter how excellent it may be in the abstract in architectural terms, is required under the planning legislation to be fit to be judged according to the precepts of planning, which may properly place considerable constraints upon the use of an otherwise architecturally acceptable design, given certain circumstances. Design must be tested against planning controls in addition to being tested against architectural standards.(p.460).

The Principles of Authenticity, Contrast and Relatedness and the Method of Line Procession (ch.2.6.3) together can guide a policy for the architectural characteristics of new buildings in a heritage area.

Old Architectural Styles

Gifford and Gifford (1987) cited cases in support of the point that :

> To avoid the spurious with its consequent detraction from the genuine, infilling between buildings of a particular architectural period should not be in a recreation of that period.(p.35.8).

That comment is consistent with the concern in Chapter 2 that the use of old architectural styles in new buildings through the Principle of Relatedness can detract from the recognition and worth of the real heritage in the area.

Facadism

The Tribunal held in State Government Insurance Commission v. City of Adelaide [1988] 36 Australian Planning Appeals Decisions 415 at 415 that :

> There is a considerable and a reputable resistance to facadism. There is no purpose associated with the former creche or with philanthropy that would be historically achieved were the remnant of the building to be retained.

This case indicates that completeness of materials and historical purpose are important characteristics for heritage buildings and it supports the use of the Principle of Evidence and the Principle of Authenticity (ch.2.6).

Conservation Areas in Britain

Conservation areas for the retention of areas of historic buildings have been included in British planning legislation and town plans for at least the last 25 years (Larkham, 1994). Australian planning legislation was derived from British planning legislation and British ideas still influence Australian planning

practice. Larkham (1994) reviewed some decisions of the British Department of Environment which did not allow local authorities to have in their town plans a presumption against development in a conservation area whereas they did allow such a presumption in a Green Belt. Larkham (1994) reported that there are close to 8000 conservation areas in the United Kingdom, however :

> **the literature has dealt with conservation, but relatively little with conservation areas *per se*.**
> **The literature warns that we are reaping the harvest of 25 years of indifferent - in some cases bad - practice in area designation and management, to such an extent that the system has been abused and the coinage debased.(p.8).**

Larkham's (1994) paper indicated that the Department of Environment was critical of planning authorities that relied on policies with a 'presumption against' development in built conservation areas because this type of plan "'requires more extensive examination than that appropriate to a Local Plan Inquiry'"(p.9), and it was not prepared to accept the delays in finalizing plans that have conservation areas.

It is possible that town plans in Australia will, where the legislation is available, initially seek as they did in Britain to designate conservation areas with as little effort as possible by writing policies into the plan with an area-wide presumption against development and further seek to rely on the courts' past practice of not interfering with prohibitions in town plans.

7.7.2 Listed Heritage Buildings in Britain

The question arose in Debenhams plc v. Westminster City Council [1987] 1 All England Law Reports 51 at 51 whether for the purpose of the Town and Country Planning Act a structure fixed to a listed building was also listed. The House of Lords decided that :

> a 'structure fixed to a [listed] building' only encompassed a structure which was ancillary and subordinate to the listed building itself and

> which was either fixed to the main building or within its curtilage, e.g. the stable block of a listed mansion house or the steading of a listed farmhouse. The fact that one building was subordinated to another for the commercial purposes of the occupier or that a completely distinct building was connected to a listed building to which it was not subordinate did not make the building a structure fixed to a listed building. Since the Regent Street and Kingsley Street buildings were historically completely independent the Kingsley Street building was not a listed building.

Phillips (1993) reported a Ministerial Planning Decision (UK) which dealt with the question of a building attached to and within the curtilage of a listed building. The decision referred to Debenhams case above and to a statement by the Chairman of English Heritage in the House of Lords in 1986 that :

> it is their practice now to 'consider individually all the structures and buildings on a site and to list those, and only those, which qualify'.(p.603).

and found that :

> that connection is neither structural nor substantial. They do not form an integral whole as might be the case in the extension or other subservient building. Only weather proofing is involved (p.603).

The definition of "building" in the Queensland Heritage Act 1992 (s.4) refers to structures and parts of structures, and to furniture, fittings and other objects. If the English decisions have an influence in the absence of Australian decisions, then a building can be protected only if it is listed or else ancillary, subordinate and historically linked to a listed building and either fixed to the main building or within its curtilage.

7.7.3 Economic Effects & Queensland Heritage Act

The aim was to research the principles that can be used to apply the the economic effects of conservation (Table 5.1) that were found in Chapter 5 to the test in Section 38 of the Queensland Heritage Act 1992 of "whether there is a prudent and feasible alternative to development" on a registered site. No court cases were sighted that dealt with Section 38 so a search of

cases was made to establish why this test might have arisen :

Gifford (1990) reported a comment from the court in Sosmo Trust Ltd. v. Secretary of State for the Environment which reversed an earlier decision that financial aspects of a development are not a relevant planning consideration :

> What could be significant was not the financial or lack of financial viability of a particular project but the consequences of that financial viability or lack of financial viability.(p.347).

This approach is consistent with the approach in town planning to new major shopping centres in which economics is a valid consideration if it helps to estimate the effect that a new shopping centre might have on the provision of services from existing shops, the eventual arrangement of shops by their functions and locations and the consequent effect on the convenience of the public. A case which illustrates this point is Kentucky Fried Chicken v Gantidis and Another where the High Court said :

> If the shopping facilities presently enjoyed by a community or planned for it in the future are put in jeopardy by some proposed development, whether that jeopardy be due to physical or financial causes, and if the resultant community detriment will not be made good by the proposed development itself, that appears to me to be a consideration proper to be taken into account as a matter of town planning.(p.482).

The inference is that the proposed development would not be allowed if it did not make good the detriment it caused to existing shops. The principle cannot be applied on its own to every proposed development on a heritage site because it would logically rule out every development. Given that a proposed development will destroy the heritage benefits from a site the question arises "What reasons are there to save the heritage site ?". That question is answered by the test in s.37 in the Queensland Heritage Act in which the Heritage :

> Council may only recommend that the development should be carried

> out if there is no prudent and feasible alternative to carrying out the development.

So the heritage place stays unless that is shown to be unreasonable. This test provides the flexibility for a yes-no decision in the same way that the test in Kentucky Fried Chicken allowed a decision in less restrictive circumstances.

The Australian Heritage Commission Act 1975 (s.30) has a similar phrase, without an economic consideration, which requires Ministers to be "satisfied that there is no feasible or prudent alternative to the taking of that action". Bonyhady (1993) raised two cases involving that phrase which he used to argue that "Such decisions have caused officials to change the way in which they exercise their power"(p.93).

The first case, Australian Conservation Foundation v. Minister for Resources (1989) 19 ALD 70, involved the granting of a woodchip export licence by the Australian government. Bonyhady (1993) said the court :

> held that it was for the Minister to make a value judgement of what was prudent and feasible and that the ACF had failed to show that the Minister had not been genuinely satisfied that there was no reasonable alternative to renewing the licence.(pp.92-93).

Section 38 in the Queensland Heritage Act 1992 does not seem to allow a value judgement as was the presumption in the Australian Conservation Foundation case above.

The second case was Yates Security Services P/L v. Keating (1990) 98 ALR 21, 53-54 which involved the sale to overseas interests of the Paddy's Market site in Sydney which is part of the National Estate under the Australian Heritage Commission Act. Bonyhady (1993) explained :

> In a decision overturned by the full Federal court on other grounds, Justice Wilcox held that the Heritage Act did not make environmental protection just another factor in the Treasurer's decision which could be overborne by economic considerations. Rather the heritage value of

> Paddy's Market was paramount and the Treasurer could not approve its sale unless there had been a proper investigation of alternatives. For this investigation to satisfy the law, it could not start from the premise that the development had to proceed and simply consider whether it could be moved elsewhere. Instead the starting point had to be whether the development could be done without. (p. 93).

An administrative principle, denoted (a) below, can be made from the decision in Yates Security Services P/L above :

(a) *when considering an application for development on a heritage place or in a heritage area the starting point is whether the community can do without the proposed development on the site and, if it can, then the prudent and feasible alternatives to development are considered.*

On the assumption that a decision was made that the community can do without the proposed development on the site, then Section 38 of the Queensland Heritage Act 1992 requires that a decision as to a prudent and feasible alternative to development must have regard to matters of safety, health and economic considerations. This requirement seems at first to work against the conservation of a heritage place. However, these matters must be given a meaning that is consistent with the purpose of the Act (Bridgman, 1991).

Prudent Alternative

In Section 38(a), the economic consideration is preceded by safety and health considerations which indicate that the economic effect on the community of the alternative to development is a consideration. This approach is consistent with object of "benefit to the community" in Section 3(2)(b) of the Act. Consequently, a prudent alternative to development would consider the extent of the benefits to the community from the alternative to the development and a feasible alternative to development would have to take into account the effect of the alternative for the individual

who owns the heritage place. This conclusion implies that a prudent and feasible alternative should include consideration of some of the benefits and costs in Table 5.1. The question though is which benefits and costs are relevant to the consideration of prudent alternatives to development ?

A second principle, (b) below, from the decision by the Tribunal in Borthwick v. City of Adelaide [1985] pp.436,437 is to disregard any costs that fall on owners or occupiers of a heritage place :

(b) *It was not for the tribunal to consider whether items should or should not have been put on the register. Lack of compensation for inclusion of a building or area on the register is irrelevant to the determination of the appeal. It is rarely that personal hardship can be relevant in a matter of planning.*

It is a widely used principle that seems unfair in some cases. It arose when developers said they could not afford to provide physical improvements such as car parking, and later could not provide financial contributions for headworks, because their projects would be made financially non-viable.

As a consequence of the principles in (a) and (b) above, the benefits and costs from Table 5.1 that become relevant to the test of community benefit, which is the test of a prudent alternative, are the : Non-use Preservation Benefit, Media Benefit, Sustenance Benefit, Recreation Benefit, Tourism Benefit, Amenity Benefit, Visitor Convenience Benefit, Opportunity Cost as it affects local government and town residents, and Visitors Costs. The nett effect of these benefits and costs will determine whether the alternative to development is prudent.

Feasible Alternative

There is a third principle (c) from Sosmo Trust Ltd. that

takes into account the economic factors that are related only to the site :

(c) *a significant matter is not the financial viability or lack of financial viability of a particular project but the consequences of that financial viability or lack of financial viability.*

The benefits and costs in Table 5.1 that are relevant to the question of financial viability (principle (c)), or a lack of viability, are the : Site Use Benefit, Adaptive Reuse Cost and Operation and Maintenance Cost, but not Opportunity Cost to the owner or Capital Purchase Cost. The test is not whether there is financial viability but rather - if there is no financial viability what is the consequence for the community? The consequences of a lack of financial viability include health and safety matters, both considerations in Section 38 of the Act, and an unproductive (sterile) site which could lead to it blighting its surroundings. The consequences of financial viability or lack of it will determine whether the alternative to development is feasible.

Conclusion

The nett effect of the benefits and costs to the community will determine whether the alternative to development, which is conservation, is prudent while the consequences flowing from financial viability, or a lack of viability, will test whether conservation is feasible. So, the economic consideration in Section 38 of the Act is not based on a numerical cost-benefit analysis but rather on the balance of the various economic effects of conservation on the community and on the use of the site.

7.8 Conclusions

7.8.1 Administrative Arrangements to Conserve a Heritage Area

Additional statutory authority is needed for any level of government to plan for the conservation of heritage areas for reasons other than that of amenity.

The Queensland Heritage Act does not coordinate the conservation of state and local heritage or give local government the power to retain places and areas of local heritage significance. Places registered under the Act as having significance are regarded in isolation from their physical environment and social context because :

(1) the Act deals only with individual places. There is no provision for the conservation of built heritage areas ;

(2) the decisions of the Minister or the Heritage Council can over-ride a statutory planning scheme when a heritage agreement is made or development is approved on a site and neither has to consult with local government ;

(3) only the owners of heritage places have the right to appeal against a decision of the Minister or the Heritage Council.

Outline of a Power

The power to conserve a heritage area could be given to Queensland's state or local government, through an amendment to the Queensland Heritage Act or the Local Government (Planning & Environment) Act in the following outline :

*The heritage council (local government) may assess an area and determine those buildings in the area that have (1) **aesthetic** characteristics. (2) historical characteristics which provide **enjoyment**. (3) evidence needed for cultural **research** or. (4) a connection with the **traditions** of a*

community, and it may prepare an environmental plan that delineates the area, specifies those buildings and regulates the alteration or construction of any buildings in the area.

This power provides for both conservation and tourism, it implements the four groups of Purpose Values in Table 2.1, and it has a set of reasons for heritage conservation which give purpose to the objectives in Section 23(3)(a)(iv) of the South Australian Development Act 1993.

7.8.2 Administrative Principles for Conservation Policy

From the preceding research, ten administrative principles were constructed to cover three broad areas that were researched earlier in the thesis : the collective property right to conserve buildings, the economic considerations and environmental design principles in conservation. The ten administrative principles provide checks and tools to use when conserving a heritage area, considering the incidence of the economic effects of conservation or preparing an appeal regarding development on a heritage site. The administrative principles are stated below in italics :

7.8.2.1 Collective Property Right

(1) *a property can only be designated as heritage property in accordance with the purpose authorised in a statute.*

A general power to carry out conservation is not sufficient. The specific power to conserve heritage areas is needed from legislation. Otherwise a conservation policy has no effect.

(2) *a town plan for the conservation of a heritage area should not rely on policies in the plan that have a presumption against*

development in the conservation area.

To prevent heavy-handed policies in a conservation plan, there can be no policy against development on general grounds. **(3)** *if a conservation authority wants to ensure a building is protected it should include the building on the heritage list. The building to be protected must be clearly identified and important parts should be noted in the listing. A building can only be protected as part of a listed building if it is ancillary, subordinate and historically linked to a listed building and either fixed to the main building or within its curtilage*.

The third principle follows from the second and again a narrow view is taken of what is protected to avoid the presumption that all structures on the property are protected. **(4)** *Where the parts of the demolished building are still in existence, an enforcement order requiring restoration of an historic building or a building of architectural importance can be served and enforced notwithstanding that the building has been demolished*.

7.8.2.2 Economic Effects

Principles 5 and 6 below are used to select from Table 5.1 the community benefits and costs and Principle 7 is used for the site owner's benefits and costs. The benefits and costs to the community will determine whether the alternative to development, which is conservation, is prudent while the consequences flowing from the owner's financial viability, or a lack of viability, will test whether conservation is feasible. The

application of these three principles was worked through in Chapter 7.7.3.

(5) *when considering an application for development on a heritage place or in a heritage area the starting point is whether the community can do without the proposed development on the site and, if it can, then the prudent and feasible alternatives to development are considered.*

(6) *It was not for the tribunal to consider whether items should or should not have been put on the register. Lack of compensation for inclusion of a building or area on the register is irrelevant to the determination of the appeal. It is rarely that personal hardship can be relevant in a matter of planning.*

(7) *a significant matter is not the financial viability or lack of financial viability of a particular project but the consequences of that financial viability or lack of financial viability.*

The economic effects of conservation in Table 5.1 can be used with the administrative principles to give effect to Section 38 of the Queensland Heritage Act or similar heritage legislation.

7.8.2.3 Environmental Design Principles

(8) *the precepts of planning may properly place considerable constraints upon the use of an otherwise architecturally acceptable design, given certain circumstances. The design of a new development must be tested against planning controls in addition to being tested against architectural standards.*

This principle extends the collective property right, when there is legislation, to the design of new buildings in a heritage

area or on an individual heritage site. The Principles of Authenticity, Contrast and Relatedness and the Method of Line Procession (ch.2.6.3) together can guide an environmental planning authority in its regulation of the architectural characteristics of new buildings in a heritage area.

(9) *there is a considerable and a reputable resistance to facadism, and a consideration is whether there was a purpose associated with the former building that would be historically achieved if the remnant of the building is retained.*

The ninth principle is to avoid the retention of only the facade of an old buildings, where possible. It implements the Purpose Value of Associational Links, the Quality Values in the groups of Authenticity and Representativeness, the Principle of Evidence and the Principle of Authenticity.

(10) *it is important that a conservation plan express clear intentions for the planned area and principles to be used in decisions.*

The tenth principle reinforces the points made in the second, third and eighth principles and the need to avoid vagueness and ambiguity. The reason for an assessment of a heritage area and the principles and methods used in the assessment will need to be just as clear if an assessment is to support a conservation plan. The tenth administrative principle therefore supports the need for the values, principles and methods in Chapters 2 and 3 for the assessment of a heritage area.

8. USE AND FURTHER RESEARCH

8.1 Intention in Thesis

The intention was to find *what has to be done to assess a built heritage area ?*, for the purpose of its eventual conservation through a statutory planning scheme. Table 1.1 has the steps that were planned and taken.

The focus of the thesis was, as stated in Chapter 1.1.1, the assessment of old built areas, not their conservation. There was no intention to deal with the assessment of individual places or non-built heritage areas. However, the literature was found to deal heavily with the conservation of individual places and areas, the reverse of what was needed. So, as the opportunity arose, principles for the conservation of areas were also developed to form a bridge from the assessment of an area to its conservation through a statutory environmental plan. Non-built heritage, such as parks, may be included in an assessment of a built heritage area if it is related to the purpose of the assessment. The thesis focussed on the heritage values of conservators, tourists and residents in the method to assess a built area, and it excluded the economic need for tourism in an assessment.

The thesis ends with a discussion below of its potential use as a cultural/environmental framework of assessment, its suitability for further refinement and testing and finally with a discussion of design principles and administrative principles.

8.2 Method of Assessment and its Use

The method to assess a built heritage area comprises, in their order of use, the Purpose Values in Table 2.1, the Concepts to Categorize Data in Table 2.9 and Chapter 3.6.2, the Model of Environmental Assessment in Table 3.5, the Quality Values in Table 2.2, the Concepts to Assess an Area in Table 2.9, and Concepts to Assess a Place within the area in Table 2.9.

The method does not account for all the diverse and complex matters that can be referred to in an assessment. It was necessary to narrow the field of study to the main factors in an assessment, but the method is comprehensive and structured so that it can be built on by further studies to refine or widen the scope of its components.

Use of Method

The method can be used to assess an area for an historical purpose to overcome the problem that historians had in making a list of buildings. It produces a statement of the meaning that can be attached to an area and this statement could be used to establish themes, as proposed by the Australian Heritage Commission, for heritage areas across Australia. It overcomes the problem faced by researchers in the assessment/conservation studies in Chapter 2.4 who were required to establish a continuous link to the historical development of the area by observing architecture and forms. The method was used in Chapter 4 to assess a commercial area but it could have been used

to assess a residential area.

The method overcomes three other problems that were noticed in the assessment studies in Chapter 2.4. First, the concept of character was shown to be a question of fact and not a criterion of heritage significance. Second, the Model of Environmental Assessment can be logically used to differentiate a heritage area from an adjoining area. The Model overcomes the problem of boundary definition that some assessment studies found when the "character" of a heritage area blended with its surroundings. Third, the method puts the assessment process clearly before the conservation process, overcoming a tendency in assessment studies that did not have a clear framework for assessment to shape the assessment to suit the conservation policy that the assessor wanted to implement.

The thesis identified situations where conservators, tourists and residents made different assessments of an area, and it argued that some differences are due to the different needs (ch.3) those groups have to be met by the area. The procedure in the method of assessment has many subjective decision points but these are clearly identified and an assessment based on this method can be traced, questioned or replicated by interested parties. The use of the method concludes with a clear reason to either support or refute the heritage value of an area and its areal limits. This reason is the fundamental starting point for clear intentions in a conservation plan which are required by the tenth administrative principle in Chapter 7.8.

Cultural Values of Purpose and Quality

The Purpose Values and Quality Values are a contribution to the assessment of heritage areas because they expand the reasons and the standards of quality well past the architectural reasons and standards that dominated the environmental plans for conservation in Chapter 2.5. The Purpose Values and Quality Values give greater particularity to the "historical and aesthetic" reasons, to the values and criteria in Australian legislation, and to the cultural heritage values in tourism. In any situation it is conceptually possible to use a Purpose Value, or to derive a Purpose Value, as the reason for commencing an assessment.

The Purpose Values are timely contributions to the assessment of heritage areas because they coincide with work being undertaken by Australia ICOMOS on the meaning and use of significant places and on the cultural values they represent.

Some towns/cities call themselves a "heritage city", for example Maryborough in Queensland. This is an expression of a need, perhaps for greatness, to be satisfied by the city environment which can be refined with a Purpose Value.

The Purpose Values and Quality Values were ranked in Tables 2.1 and 2.2 by their frequency in the literature as a first indication of their relative importance. A similar de facto weighting system could be made from the statements of significance for a sample of places already on the National Estate Register. A numerical scoring system would at least require assessors to be more open about their criteria and weighting,

particularly as these can change over time. The three groups of Concepts in Table 2.9 provide an assurance that quality, through the Quality Values, is considered in an assessment but there are no measurable standards of quality in any of the Quality Values or Concepts. This is a common problem with qualitative values and information but it does not reduce their importance.

Another limitation in the Purpose Values and Quality Values is that they were mostly derived from literature representing the "conservation industry", a group of people who were labelled as elitist in some of the critical literature in Chapter 1. To overcome this problem, the Purpose Values and Quality Values should be researched from the historical and current literature of the community for whom the assessment is being carried out.

The Purpose Values and Quality Values could be further refined and expanded by questioning experts and by researching data in a range of assessment studies and tourism literature to develop a generic set of unique key words to associate with each Purpose Value and Quality Value. These values and key words could then be tested in surveys with the semantic method used by Black (1989). A study could also be made of the influence of the personal characteristics of residents and visitors on their cultural values and the effect of these characteristics generally on an assessment of an environment through the Model.

Concepts to Categorize Data

Three concepts to categorise data about an area are Area Architectural Character in Table 2.9 and Threshold Event and Phase of Development in the Sub-model of Time (ch.3.6.2). The concepts to categorise data about a single structure or place are the Principle of Evidence, Landmark and Chenhall's Lexicon in Table 2.9.

The clarification of the much used idea of "character" in the concept of Area Architectural Character (ch.2.3.5) could be useful for any studies of built areas. The idea of Threshold Events and Phases of Development is sufficiently general to be applied to the development of practices in areas with mines, ports and farms. The concepts to categorise places are useful because they allow a researcher to attach attributes to places and to classify and group the places.

Model of Environmental Assessment

The method to assess a built heritage area gains its generality from the Model of Environmental Assessment which is a needs-based environmental structure to assess any environment, historical or not. There is scope to apply the Model in the assessment of heritage areas of mining, transport and farming by the further development of Sub-models and Concepts relevant to those activities. In the Model, the factor of Need is a given exogenous and constant factor. The relative weights that the other three factors of Knowledge, Location and Unity have to each other were estimated (ch.6.7.3) in an opinion survey and a

contingent valuation survey. The factor Unity was a positive factor in the opinion survey and a negative factor in the contingent valuation survey. The thesis gave an explanation for that result (ch.6.6.4) and if it is repeated in similar surveys, it is an important point for the contingent valuation method that was not seen in the literature.

The sample of households in Charters Towers in Chapter 6 were willing to pay a heritage authority to research and protect historic buildings in their commercial area and this result can be used to argue that state or local government be given the power to conserve heritage areas.

The survey in Chapter 6 successfully tested the Model as an environmental framework that explained residents' opinion of the area and the amount they were willing to pay for its conservation. The survey method could be improved in at least three ways : by asking respondents for their opinion of the area on a five point graded score like that used with success in Question 7 in the survey, by explaining that landmarks are not necessarily historically important and conversely that important places need not be landmarks, and by encouraging those who had a low opinion of the area to answer all the questions.

The survey in Chapter 6 found no statistical difference in the amounts the sampled households were willing to pay for different levels of conservation in the central area of Charters Towers. This result invites the question "What additional benefit is there in conserving an area as opposed to only conserving individual

buildings in the area ? There are two empirical answers and a theoretical answer to that question. First, the lack of a statistical difference was partly explained by the inherently high statistical variance in the contingent valuations. Second, the households did not report historical connections throughout the whole area such as the heritage of excellence in achievements in Chapter 4. Third, the theoretical answer is that the method of assessment provides a meaning or understanding for the area and an identity for the town which no observation of individually important buildings and inductive reasoning can. For example, the global assessment of the central commercial area in Charters Towers in Chapter 4 noticed the visibly prestigious buildings but overlooked the historical landmarks. Being in a heritage area and understanding a meaning ascribed to the area allows anyone to feel they are within an environment of cultural importance. In contrast, the observation of individual buildings in the area is not in itself likely to provide a heritage of cultural meaning. Consequently, the perception of the importance of the area as a cultural heritage is likely to be weaker. The third explanation, which relies on the Sub-model of Time (Table 3.4), would be tested in the market research program below.

Further Testing of Model of Environmental Assessment and Environmental/Economic Hypothesis

The survey method in Chapter 6, which combined an opinion survey and a contingent valuation survey, could be repeated for two purposes : (1) to test the Model of Environmental Assessment

in other built heritage areas to find whether the linear relationships continue to hold between the Model's factors and the residents' opinion of the area or their willingness to pay for research and protection of the area, and (2) to present alternative scenarios of conservation policy or alternative objectives for conservation to the public for evaluation and to elicit other heritage values. The survey method could be applied as market research to find whether a community is in favour of the conservation of an area and in particular to find whether the residents have a potentially greater preference for protection of the whole historic area than for protection of important historic places within that area. First, survey the residents without providing them with information about the area. Second, through public media inform the public with the history of the area, conclusions about its aesthetic qualities, the threshold events and phases of development in the town and past associations with the area and its buildings. Third, make a second sample survey and compare the results of the first and second surveys to find whether the residents are potentially receptive to the conservation of the area. The difference in the results may also indicate that a similar information package would be interesting to tourists.

The Model is limited to one Need in each assessment. This structure of a single need invites the question, which was not followed in the thesis, but which could be followed to refine the Model : How do people simultaneously assess an environment for

two different, even conflicting, needs ? In the household survey in Chapter 6, the residents' willingness to pay for increased knowledge and protection of the area, although not statistically significant, was reduced by the number of visits to the area for material needs. The result fits with the notion in Chapter 3.7 that there is a conflict for residents between heritage related needs and non-heritage related needs in an active commercial area and that they do expect costs as well as benefits from conservation. A visitor's assessment should not logically face this problem since the visitor is expected to be only concerned with a need for pleasure or the sustenance of heritage values in the environment, and not with the sustenance of material needs.

The Model could also be used to explain peoples' willingness to pay for an improvement in conservation in a natural area if the economic/environmental hypothesis in Chapter 5.5.3 and Chapter 6.1.1 is amended to take account of natural features in place of buildings. The Model and the Contingent Valuation Survey Method are both suitable for use in built areas and natural areas.

Further research could explore other relationships between the factors in the Model as alternatives to the linear relationship used to test the Model in Chapter 6.

Concepts to Assess an Area

The concepts to assess an area are the Quality Values in Table 2.2 and three criteria and two principles in Table 2.9. The Quality Values are in seven groups. The Quality Value of Story

was the most frequently implied in the promotional literature (ch.2.2.8) but it was used very little in the assessment studies. The Quality Values are a useful check of the scope of criteria used in an assessment and a starting point for further searches for measures of quality. More research for quality values and measures could result in better criteria to assess industrial areas, farming areas and so on, and new or refined Sub-models in the Model of Environmental Assessment.

There is an opportunity to further develop or refine the Criterion of Area Architectural Quality with other characteristics such as voids and spaces. Its use is to direct the application of the factors in the Sub-model of Aesthetics to definite types of architectural data. It is not a replacement for the Sub-model because it does not state how to test for unity in the characteristics, as the Sub-model does.

The Principle of Historic Precinct is a standard for an audit of any assessment of an area. The meaning that is attached to an area by an assessment should be a different proposition to the meaning that can be attached to individual historic buildings in the area. If research used the principle to audit a number of assessments, some useful generalizations about assessments, and what they thought heritage areas should be, could emerge to broaden the principle and further develop ideas about built heritage.

The Principle of Visitation and the two Criteria of Enjoyment and Tradition for Visitors are also checks or audits of an

assessment, to find whether the area is likely to be of interest to visitors. The Principle identifies entertainment and tradition as two substantive components that must be offered in a heritage area for a successful visit. The two Criteria set out the tests to make. These tests could be developed further by researching tourists' motivation to visit heritage areas. For example, to find whether the motivation is a nostalgic search for their antecedents, to learn or to impart traditions to their family, to find architectural authenticity or to find greatness with which they can personally associate. The research could also clarify the personal end-result, such as satisfaction, new understanding or excitement, that visitors enjoy during a visit.

Concepts to Assess a Place Within the Area

The concepts to assess a place are in Table 2.9. These criteria are specifically for individual places, without any consideration of whether a place is in a heritage area. The criteria are not tests of the significance of individual places in the assessment of a heritage area. Places are significant for a heritage area if they are noted in its assessment by the Model of Environmental Assessment and the concepts to assess an area in Table 2.9.

8.3 Conservation

Before making an assessment of an area, there are three matters to anticipate in the conservation stage. They are the design principles to guide alterations or new development (chs.2.6.3 and 3.8.2), the economic effects of conservation in a public welfare sense (Table 5.1) and the administrative power and principles that will be needed (ch.7.8).

The three environmental design Principles of Authenticity, Contrast and Relatedness and the Method of Line Procession have a potential use in town plans for heritage conservation because the assessment reports and conservation plans that were reviewed in Chapters 2.4 and 2.5 considered only the desirability of making the new buildings similar to the old and did not consider authenticity, visual contrast or modern design for new buildings. These town plans assumed the public would be uncomfortable with modern buildings amongst the old. This assumption should be questioned and subjected to research for empirical data to support it or to reject it.

Three questions can be asked : "why is similarity in design important in a heritage precinct when it is common knowledge that old buildings are replaced by new buildings ?" Is similarity or continuity in a procession of lines (Dovey 1988) important because an area in which all buildings are linked by design is interpreted as belonging to the same era and therefore unchanged and representing an accurate and complete block of historical

information ? In an area where new buildings are designed similar to the old, is consistency in external design features needed because change and obsolescence are two conditions in an urban environment that the public is not comfortable with ? Answers to these questions may not influence the need for similarity in design but answers could illuminate the social or theoretical context in which environmental planning is carried out in heritage areas.

The Principle of Contrast provides for extreme contrasts in scale and modern architecture. It is consistent with the ideas of visual prominence and distinctiveness in the concept of Landmark which in turn is part of the Location factor in the Model of Environmental Assessment. The Principle of Contrast and the Method of Line Procession are consistent with the two factors in the Sub-model of Aesthetics. These consistencies remove the likelihood of a tension between an assessment for an aesthetic purpose and a subsequent conservation plan. The consistency is reliable because the Principle of Contrast and the Method of Line Procession were developed largely from conservation literature while the Model of Environmental Assessment was developed independently and from different data.

8.4 Conclusion

The thesis constructed a method to assess a built heritage area, it implemented the method in the assessment of the historic central commercial area in Charters Towers, and it carried out a statistical test of the Model of Environmental Assessment in a public survey for the same area. The thesis gives a method to interact with the public in the assessment of an area and in the setting of reasons to conserve an area. The capacity of the Model of Environmental Assessment to be used in both assessment and conservation studies is an important feature that provides a continuous environmental framework for both environmental assessment and environmental planning.

The making of a conservation plan was not discussed in the thesis. However, the thesis made a conceptual bridge between assessment and conservation by identifying the possible economic effects of a conservation plan, by researching the contingent valuation method which can integrate those economic effects for both visitors and residents, by developing and implementing a survey framework for a public evaluation of alternative environmental objectives in a conservation plan, by proving that the administrative power to conserve a built heritage area is not yet available in Queensland, by researching ten administrative principles to be applied in a plan and by developing three principles and a method for the design guidelines in a plan.

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GLOSSARY OF TERMS

Those terms below that are end-captioned MKW1.1 to MKW1.10 are definitions in the Burra Charter that are reported in Marquis-Kyle & Walker (1992, p.69).

Adaptation means modifying a place to suit proposed compatible uses (MKW1.9).

Aesthetic Value means a pleasing composition or arrangement in the things that are seen, understood or otherwise perceived. There is an aesthetic value if there is "unity in variety" in the elements in the environment, story or concept under consideration so that those elements can be comprehended in strong solid blocks of cultural or natural information (ch.2.5.1).

Characteristic of Distinctiveness means a characteristic of a place that marks the place as rare, early in time, influential within its type, endangered, particularly fine in exemplifying its type, particularly valuable for research or marks a major stage or the climactic point for its type (ch.1.2.1.2).

Character is a statement of visual congruity or incongruity in the assembly of visual characteristics that include in respect of buildings : (1) height, (2) ratio of facade width to height, (3) ratio of window width to height, (4) ratio of facade solids to voids, (5) ratio of street solids to voids, (6) ratio of facade entrance to non-entrance, (7) predominant material, (8) predominant texture, (9) predominant colour, (10) predominant architectural details, (11) predominant roof shape, (12) enclosures, (13) landscaping (14) ground cover, (15) scale,

(16) axial direction, (17) purpose (ch.1.2.9.1).

Collective Property Right is the right given by legislation to a conservation body to require the owner of a designated heritage place to not do anything that would reduce the heritage significance of the place and the heritage area in which it is situated. (chs.5, 7). The right is established to protect the public interest in the Non-Use Preservation Benefit that is derived from the existence of the place and the heritage area. The collective property right is not a right to sell, use, alter, or have access to, an historic building.

Compatible use means a use which involves no change to the culturally significant fabric, changes which are substantially reversible, or changes which require a minimal impact (MKW1.10).

Conservation means all the processes of looking after a place so as to retain its cultural significance. It includes maintenance and may according to circumstances include preservation, restoration, reconstruction and adaption (MKW1.4).

Contingent Valuation is the monetary amount a person says he or she is willing to pay for a hypothetical improvement in a public good, such as an improvement in the protection of a particular environment, where there is no market or price history for the improvement. The valuation is a potential payment that is contingent on the valuer accepting a proposition that the improvement can be provided. By asking a large number of people to give separate contingent valuations a hypothetical market is assessed for the improvement in the public or private good. In a contingent valuation survey, the change can be a well defined public policy along with its objectives and probability of success (Mitchell & Carson,

1989, p.51). The policy can provide knowledge that can be sought or acquired in a passive manner (Mitchell & Carson, 1989, p.73).

Cultural Significance means aesthetic, historic, scientific or social value for past, present or future generations (MKW1.2).

Dominant tenement means a tenement that receives the benefit of a servitude or easement.

Environmental Planning is the statutory activity by local and state governments in Australia to regulate the development and use of land and buildings. It is also known as town planning (ch.1.1.1).

Fabric means all the physical material of the place (MKW1.3).

Form means the shape of a building or a particular design style and it includes a verandah or a type of roof (ch.2.3.3).

Heritage means what is or may be handed onto a group of people from ancestors or from the antecedents in their community as land, a trait, beliefs or customs.(chs.1.1.2, 1.2.6).

Heritage agreement means a legally enforceable agreement between a landowner and a person who has statutory authorization to make the agreement for the purpose of conserving a heritage place. The agreement must have benefits and obligations to both parties and it runs with the land so that any subsequent owner and occupier is also bound by the agreement.

Heritage area is an area of land in which there are buildings or natural features that are, or are associated with, the heritage of a group of people.(chs.1.1.2, 1.2.6).

Heritage value means the cultural importance of a place which is determined by a cultural reason to keep the place (a Purpose Value, Table 2.1) and the quality of the physical evidence (a Quality Value,

Table 2.2).

Historic landmark is a building or other structure in a heritage area which is, or arises directly from, an historical threshold development or event.

Historic area means a geographic area associated with people or events recorded in history.

In gross means a right that is not annexed to land.

In-fill Development means new development on vacant land between buildings (ch.1.1.2).

Landmark value is the cultural value that a place has due to its visual, innovative or historical prominence (ch.1.2.4).

Locational Landmarks are physical points of reference in the environment that indicate a place or an activity and which provide a mental record of relative movement, distance and direction. They help to avoid becoming disoriented or "getting lost". (ch.2.4).

Maintenance means the continuous protective care of the fabric, contents and setting of a place, and is to be distinguished from repair. Repair involves restoration or reconstruction and it should be treated accordingly (MKW1.5).

Meaning. The meaning that can be attributed to an environment is an explanation of the environment's significance for a need or a purpose, past or present, and an explanation of functional and spatial relationships between elements in the environment (ch.3.2.2). An environment has meaning when it portrays a scheme that is comprehended by the observer. A built heritage area can have two broad meanings, the built structures with their explicit old architectural characteristics, or it can mean the beliefs, customs or

traditions that were and still are associated with the structures (ch.1.3.5).

Need is a requirement for the satisfaction of physical matters such as work, food, shelter or territory, here termed a Need for Sustenance, or for emotional satisfaction here termed a Need for Pleasure (ch.3.4).

Non-use Preservation Benefit is the knowledge that the evidence in old buildings for a Purpose Value in Table 2.1 is available and secured through a collective property right.

Phase building is a building arising through general growth in a phase of development following a threshold development or event.

Place means site, area, building or other work, group of buildings or other works together with associated contents and surroundings (MKW1.1)

Precinct means "a district within certain boundaries, for a purpose (ch.1.1.2).

Preservation means maintaining the fabric of a place in its existing state and retarding deterioration (MKW1.6).

Principle Of Relatedness is the proposition that the architectural characteristics of old buildings should be reintroduced in new buildings, new similar to old.(ch.2).

Public Goods is an economic concept to identify those goods that cannot be traded in an economic system, but are available to the public without restriction and are not diminished by their use. The public good from historic buildings is the knowledge that the buildings are secure and available.

Purpose Values are the reasons for the conservation of old buildings

(ch.2.2). The main purpose in the conservation of old buildings is to keep those buildings as reminders of the values that are a tradition of the culture that is seeking the conservation. (ch.2.2.8).

Quality Values indicate whether a particular old building or historic area is worth keeping for a given Purpose Value (ch.2.2).

Reconstruction means returning a place as nearly as possible to a known earlier state and is distinguished by the introduction of materials (new or old) into the fabric (MKW1.8).

Restoration means 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 (MKW1.7).

Scale means size in relation to other buildings (ch.2.3.3).

Servient tenement means a tenement subject to a servitude or easement.

Setting means the surroundings of a place.

Sustenance Benefit is the maintenance or improvement in the personal non-use preservation benefit, during a visit to a heritage place, which arises from a rejuvenation or increase in personal knowledge of the values for which the heritage is evidence.

Tenement means a thing which is the subject of tenure, that is land.

Threshold event is a development or event, not necessarily in a heritage area, that enabled subsequent general development in the heritage area.

Unity means the elements in the environment are compatible and complement each other to form a whole that is understood (ch.2.3.8.2).